APPENDIX D: ROCHESTER SUBAREA PLAN

THURSTON COUNTY
WASHINGTON
SINCE 1852

Rochester Subarea Plan
Thurston County
Comprehensive Plan

July 1996

Board of Commissioners:
Judy Wilson, Chairman
Dick Nichols, Commissioner
Diane Oberquell, Commissioner

Tom Fitzimmons, Chief Administrative Officer

Planning Commission:
e.j. Curry, Chair
Robert T. Bower, Vice-Chair
Dorn Barr
Thomas F. Cole
Carolyn Dobbs
Bob James
Charles Sadler
Pat Schoelkopf
Frank Swinkey

ACKNOWLEDGEMENTS

Rochester Growth Study Area Citizens' Committee

Mike Callahan
Lowell Deguise
Leona Fagerness
M. J. Kabaci
Tom Leal
Maurice Messer
Ellene Porter
Dan Rotter
Steve Sorell

EARTH TECH
(formerly Barrett Consulting Group)

Mark Personius, AICP
Project Manager

Thurston County Development Services

Fred Knostman
Planning Manager

Thurston Regional Planning Council

David Read
Geographic Information Systems

TABLE OF CONTENTS

	Page
INTRODUCTION	1
Background	1
Process	1
Description of the Study Area	2
LAND USE	3
ENVIRONMENTALLY SENSITIVE AREAS	5
POPULATION AND SOCIOECONOMIC CHARACTERISTICS	7
HOUSING	8
CAPITAL FACILITIES	9
Sewer and Water Systems	9
Public Safety	11
Parks and Recreation	12
Schools	13
TRANSPORTATION	13
GROWTH TRENDS/SPATIAL RELATIONSHIPS	15
PLANNING FOR GROWTH	18
Criteria for UGA/Rural Lands	18
Projections for Growth	22
Demand for Land	23
Land Availability	25
ALTERNATIVE LAND USE SCENARIOS	25
Alternative #1 (Medium Density Residential)	26
Alternative #2 (Low Density Residential)	26
Alternative #3 (Rural Emphasis)	26
Alternative #4 (Strict GMA Scenario)	29
FINAL LAND USE PLAN	30
Urban and Rural Lands	32
Residential	33
Arterial Commercial	35
Industrial	35
Agriculture	36
Public	36
GROUNDWATER QUALITY, FUTURE SEWER AND WATER IMPROVEMENTS	36
APPENDIX	

LIST OF TABLES

		Page
1	Rochester Growth Study Area - Existing Land Use	5
2	Water Right Allocations - Scatter Creek Basin	10
3	Rochester School District No. 401 - 1995 Enrollment by Facility	13
4	Rural Arterial Traffic Volumes - Rochester Growth Study Area	15
5	Rochester Growth Study Area - Projected Population Growth 1995-2020	22
6	Total Employment - Southwest Thurston County	24
7	Summary of Land Use Alternatives — Rochester Growth Study Area	27
8	Rochester Subarea Land Use Plan - Land Use Allocations	31

LIST OF FIGURES

No.	Title	Following Page
1	Growth Study Area Boundary Map	1
2	Existing Zoning	2
3	Existing Land Use	3
4	Aquifer Recharge Map	5
5	Critical Areas	6
6	Residential Development Density (By Section)	18
7	Parcel Size Patterns	18
8	Final Land Use Plan and Zoning	31
9	Proposed Future Urban Service Area	32

INTRODUCTION

Background

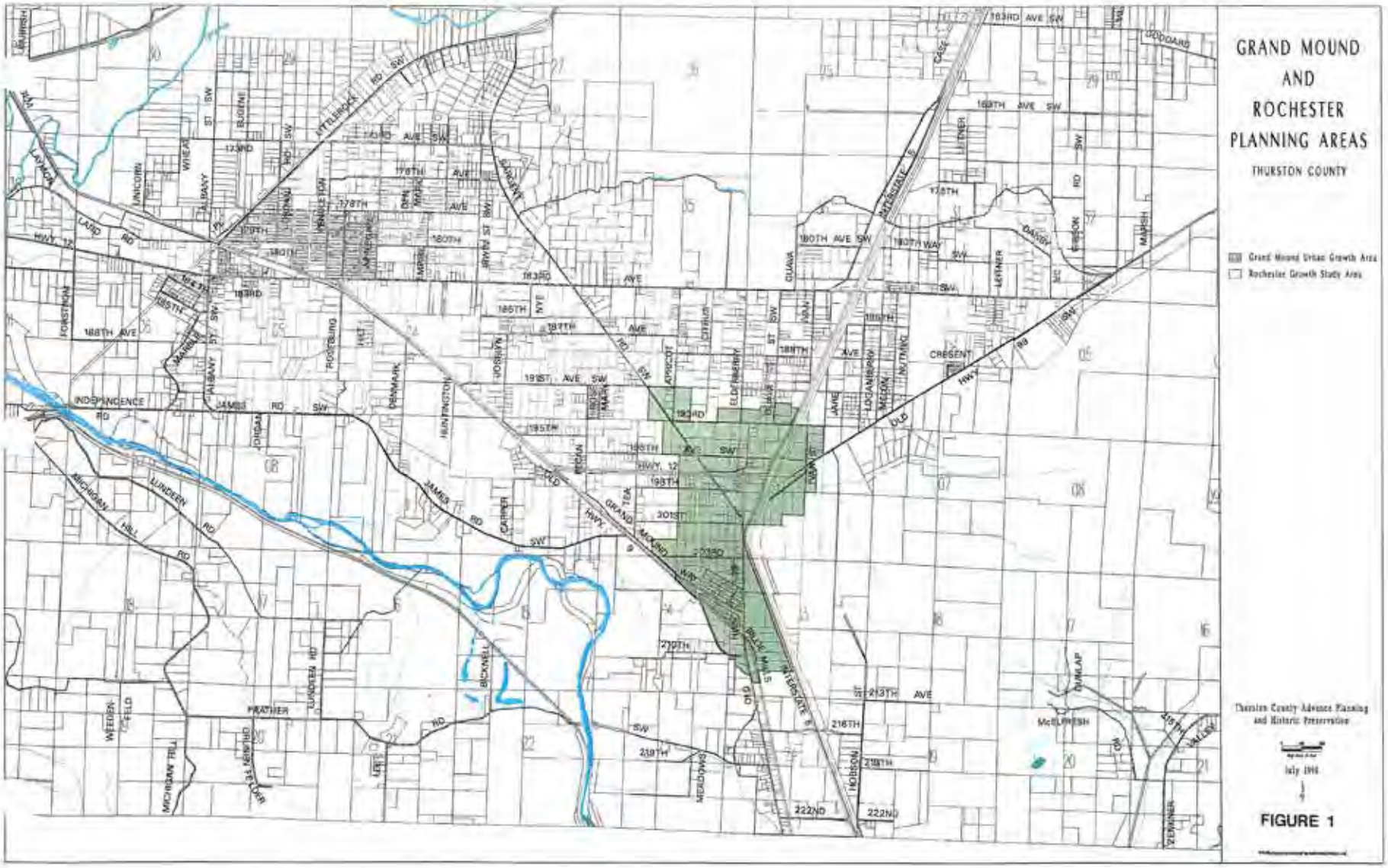
The Rochester Growth Study Area (GSA) is a growing 9,500-acre, mixed-use area located 15 miles south of Olympia in southwest Thurston County. Bounded by Old Highway 99 and Interstate 5 on the east and the unincorporated community of Rochester and Littlerock Road in the west, the study area stretches north to the limits of Scatter Creek and south to James Road (Figure 1). Its present growth is comprised mostly of large-lot residential development and agricultural uses, along with scattered light industrial and commercial uses and two concentrated commercial cores around the unincorporated communities of Grand Mound and Rochester. The Study Area exhibits many of the characteristics that are now being debated around the state as to what defines a place as "urban" or "rural."

The 1995 Thurston County Comprehensive Plan noted the "anomalous" situation of the GSA and directed a re-evaluation of the original 1978 Rochester Subarea Plan (which designated land uses and policies for development within the GSA and an even larger surrounding area). The Rochester Subarea Plan was originally adopted in 1978, and covered an area of roughly 55,000 acres in southwest Thurston County. The Original Subarea Plan designated a 9,500-acre area as a "Growth Area" (what constitutes the current GSA) to promote growth and economic development in South Thurston County and a much larger rural area surrounding the GSA. Between 1978 and 1995, the County undertook a series of planning projects to update the overall County Comprehensive Plan, achieve consistency with the Growth Management Act (GMA), and ensure consistency between subarea plans and the overall County Comprehensive Plan. As a part of this process, the rural portions of the subarea (outside of the GSA) were rezoned consistent with the GMA to include rural residential densities (1 du/5 acres) and long-term resource lands for agricultural and forest purposes, while the Grand Mound portion of the GSA was designated as an Urban Growth Area consistent with the County's intention to pursue implementation of a public water and sanitary sewer system. However, the GSA portion of the subarea retained its mixed-use Medium Density Residential 1 to 6-du/acre designation.

The purpose of this Rochester Growth Study Area Comprehensive Plan Amendment is to reevaluate the GSA's land use designations in light of achieving consistency with the overall County Comprehensive Plan, the Grand Mound UGA and the GMA. In the process it is hoped to achieve a better understanding and appreciation of the "gray areas" between what the Growth Management Act perceives as urban and rural and to preserve the best aspects of both within the Study Area.

Process

In light of the mixed-use nature of the GSA, its growth potential, and its "anomalous" nature exhibiting both urban and rural characteristics in apparent conflict with the requirements of the GMA, the County undertook an extensive planning process to attempt to reach consensus on the future land use and capital improvement needs. In all, the planning process took nine months to complete. Integral to this process was an extensive public participation program aimed at including local residents and property owners' concerns and desires regarding the future of the GSA. The process included a series of four major public workshops, appointment of a nine-member GSA Citizen's Committee to monitor development of the plan, twice-monthly "open houses" during the plan's development to allow for "drop-in" question-and-answer periods, a mailing list of over 100 persons to notice workshops and open houses, and extensive workshops and public hearings at the Planning Commission and Board of County Commissioners level. The process included a project "kick-off" issues workshop, a visioning strategy workshop and questionnaire, an alternative futures workshop discussing four different future land use scenarios for the


GRAND MOUND
AND
ROCHESTER
PLANNING AREAS
THURSTON COUNTY
Grand Mound Urban Growth Area
Rochester Growth Study Area
Thurston County Advance Planning
and Historic Preservation
July 1996
FIGURE 1

GSA, and a final workshop to present and deliberate over the preliminary draft land use map for the GSA.

The process intended to address both the needs and desires of the local residents with the requirements of the County Comprehensive Plan and the Growth Management Act. This was not easy. In a large part, this was due to the expectations of many of the residents of the GSA regarding growth. Surely a growth area designation for 18 years, from 1978 to 1995, and a fairly predictable regulatory scheme instilled a certain level of expectation regarding growth among many residents and property owners. The requirements of the GMA (as interpretated by the Western Washington Growth Management Hearings Board), at the same time, appear to counter many of those historic perceived notions of growth in what is also widely perceived as a rural area.

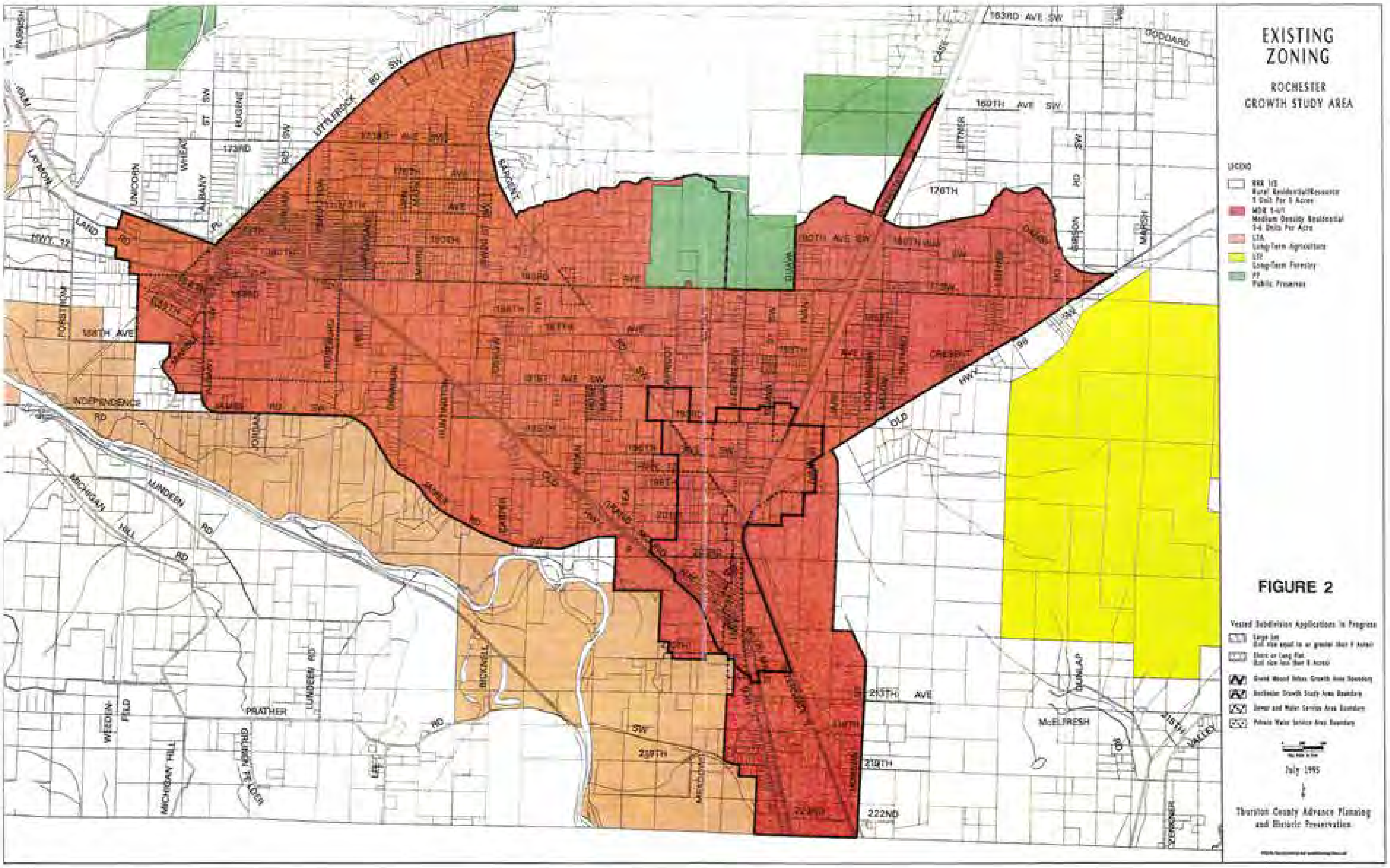
Description of the Study Area

The GSA is a 9,500-acre area located in southwest Thurston County. The entire area has, since 1978, been designated a "Growth Area" with a Medium Density Residential (MDR) (1 to 6 du's/acre) zoning classification. The MDR designation allows for a range of housing densities from 1 to 6 units per acre. This is called "split-density" zoning and is based on the availability of sanitary sewer and/or water (i.e., 1 unit per acre base density, with up to 6 units allowed per acre if sanitary sewer is available). It also allows for commercial and industrial uses based on site plan and hearing examiner approval (Figure 2). This designation was given in 1978 based on the assumption that sanitary sewer would be provided to portions of the area in the future. Since that time, no sanitary sewerage system has been constructed. However, the County is currently proceeding with plans to install a sanitary sewer system within the Grand Mound area, located adjacent to the U.S. Highway 12 and Interstate 5 interchange. As a part of that process, the County designated a 950-acre area within the GSA as the Grand Mound Urban Growth Area (UGA). Consistent with the GMA, the Grand Mound UGA was designated as an urban area to accommodate higher densities and intensities of use consistent with the provision of sanitary sewer and public water service. Plans for the installation of public utilities within the UGA are on-going, as are land use amendments, to bring the residential densities within the UGA up to urban levels (e.g., 3 to 6 units per acre) as well as higher intensity commercial and industrial uses.

Meanwhile, the remaining 9,500-acre GSA retains its MDR mixed-use zoning designation. True to form, the area has developed along the lines of a mixed-use community. The predominant use is residential, with a range of lot sizes from 1 unit per acre (and smaller) to 1 unit per 5 acres (and larger), along with existing agricultural activities — tree farms, fish farms, dairying, grazing and agricultural processing activities; and scattered commercial, gravel mining, light industrial, recreational, and institutional development. Large tracts of vacant land remain throughout the area, many being subdivided in anticipation of development. Existing land uses within the area are shown on Figure 3. Growth pressure is increasing in the GSA due to a variety of reasons:

- Plentiful supply of available land for development;
- Commuting distance to Olympia/Tacoma and Centralia;
- Affordable housing opportunities;
- Interstate 5 interchange access;
- Desirable "rural" prairie and woods landscape; and
- Increasing job opportunities.

True to its mixed-use designation, the GSA's inhabitants are mixed as well. The population is comprised of a wide range of residents, including older generations of property owners, ranchers, farmers, loggers, senior citizens, new young families migrating from Seattle/Tacoma and Olympia, and new retirees from


EXISTING ZONING
ROCHESTER GROWTH STUDY AREA
FIGURE 2
July 1995
Thurston County Advance Planning and Historic Preservation

both in- and out-of-state. Situated along Interstate 5 between Centralia and Olympia, the area is seen by many as a natural avenue for growth, both in terms of economic development (based on excellent rail and highway access and activity generators, such as the Chehalis Tribal Casino) and residential development (for those seeking to escape the impacts of growth in the cities and urban areas to the north and south). At the same time, concern is growing over the environmental impact of continued development in the area. Primary among these concerns is the fact that the entire Study Area is designated as a Critical Aquifer Recharge Area by the County and the State Department of Ecology.

LAND USE

Open space or vacant land not being actively used for agricultural purposes comprises the single largest "use" of land today within the Study Area. Much of this land includes former agricultural parcels that have been subdivided in anticipation of development as well as large tracts of land not considered actively managed for agricultural or forestry purposes. It is estimated that approximately 5,512 acres of land within the Study Area are considered vacant, according to land use surveys compiled by Thurston County.

Residential development is the single most dominant "built" land use in the area. Low density single-family residential activity is most prevalent in the Rochester area northward along Littlerock Road to 173rd Avenue and east along 183rd to Sargent Road. Growing concentrations of residential development also exist immediately north and west of the Grand Mound UGA, between Highway 12 and 183rd Avenue, and east of I-5, between 183rd and Old Highway 99. The pattern of development in these areas is comprised of a wide range of lot sizes — the most prevalent being 1 unit per acre. However, areas of higher density (up to 4 units per acre) exist in very limited areas, including duplexes, quadplexes, and older mobile home parks. However, these medium density residential uses constitute only 37 acres of the GSA. Other common lot sizes include 1/2-acre subdivisions and lots between 2 and 5 acres in size as well as larger parcels still used for passive agriculture. In total, low density residential accounts for approximately 2,137 acres of development in the GSA.

All residential development within the GSA currently utilizes on-site sewage systems to treat and dispose of wastewater effluent. At the same time, most development also relies on individual wells and small community water systems for water supply. A private water purveyor, the Rochester Water Association, also supplies a community water supply to portions of the Study Area in and around the community of Rochester and several isolated subdivisions around the Grand Mound area.

According to the MDR zoning classification, a maximum of 6 units per acre is allowed in the GSA. However, lacking public sanitary sewer in the area, the County Critical Areas Ordinance (Chapter 17.15, TCC) allows only 1 unit per acre residential density in the Critical Aquifer Recharge Area with standard on-site sewage treatment. A maximum of 2 units per acre is allowed only with enhanced on-site treatment. Hence, the predominant maximum residential development has occurred in the range of 1 to 2 units per acre density. Most of the existing higher density development was permitted prior to adoption of the County's current environmental health regulations, or utilizes advanced on-site treatment systems.

Agriculture and agricultural processing remains an active land use activity within the GSA. The area is home to a number of salmon farms, the Briarwood poultry and egg production facility, Weyerhauser tree seedling research facility, and a fertilizer processing facility. More prevalent are small farms that include small-scale dairy operations, cattle grazing, horse pastures, and haying as well as turf farms and tree farms. The GSA does not contain any large-scale dairy operations. However, these are prevalent in the area immediately adjacent to the Study Area, especially along Old Highway 99 east of I-5 and south

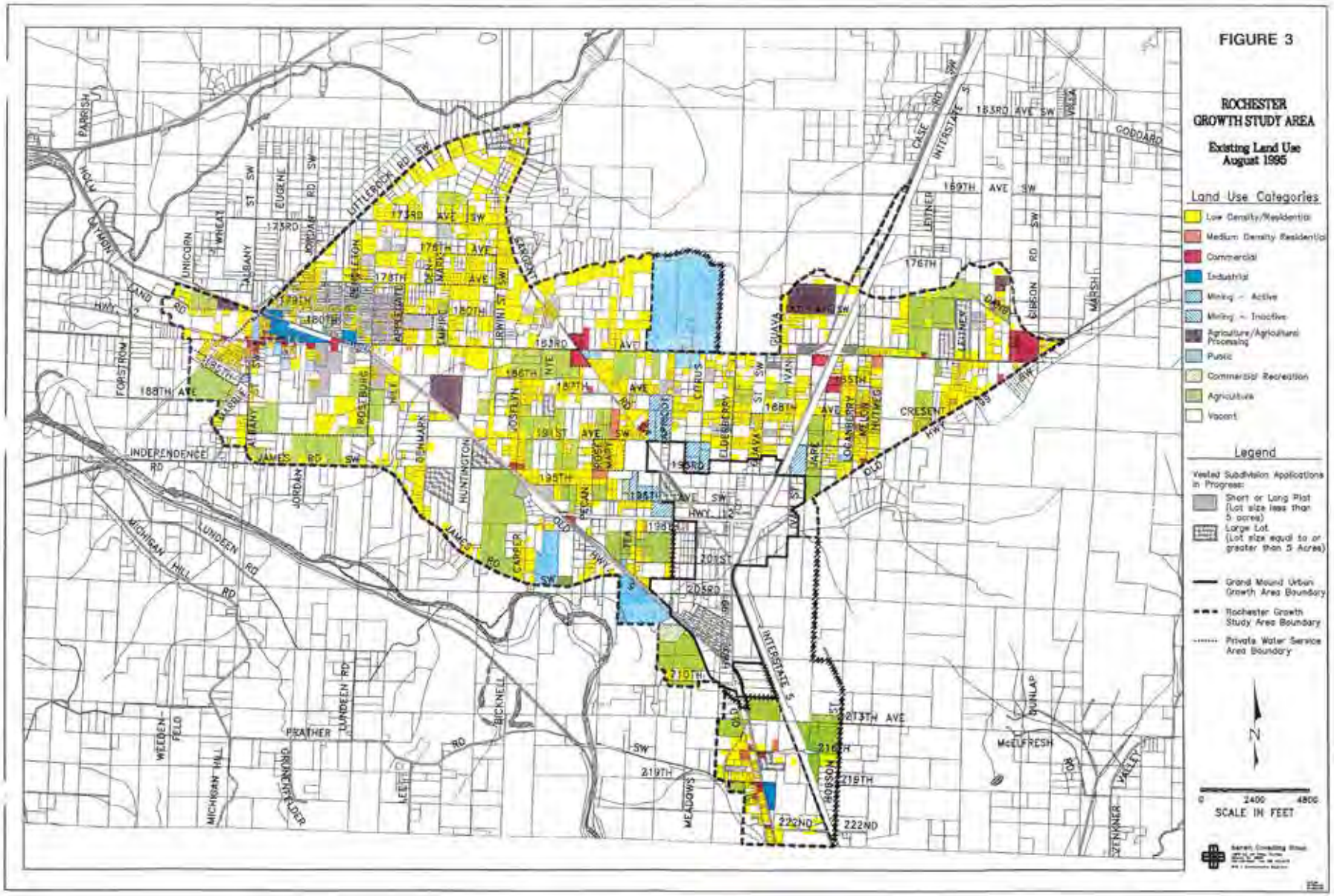


FIGURE 3
ROCHESTER
GROWTH STUDY AREA
Existing Land Use
August 1995
Land Use Categories
Low Density/Residential
Medium Density Residential
Commercial
Industrial
Mining - Active
Mining - Inactive
Agriculture/Agricultural Processing
Public
Commercial Recreation
Agriculture
Vacant
Legend
Vested Subdivision Applications in Progress:
Short or Long Plat (Lot size less than 5 acres)
Large Lot (Lot size equal to or greater than 5 Acres)
Grand Mound Urban Growth Area Boundary
Rochester Growth Study Area Boundary
Private Water Service Area Boundary
N
0
2400
4800
SCALE IN FEET
INTERSTATE 5
HWY 12
INDEPENDENCE RD
MICHIGAN HILL RD
LUNDEEN RD
188TH AVE
195TH
201ST
205TH
210TH
213TH AVE
219TH
222ND
169TH AVE SW
176TH
183RD AVE SW

of the James Road boundary. Much of the vacant land within the GSA is also former farm land that has been taken out of active production. Active agricultural and agricultural processing land accounts for approximately 1,127 acres within the GSA. Active agricultural use within the Study Area has been slowly decreasing over time as tree lots and grazing pastures have been subdivided for new residential development. Nevertheless, some new acreage has been converted to Christmas tree farms and turf farms in some areas. There are no long-term agricultural resource lands designated within the GSA. However, much of the area along James Road immediately adjacent to the GSA are designated as long-term agricultural resource lands and include significant dairying operations.

Commercial development is limited to a few scattered parcels outside of the Grand Mound UGA and the town core of Rochester. Typical uses include: the IGA grocery store commercial node at 183rd and Sargent Road — including the grocery store, a drugstore, day care center and veterinarian office; the South Sound Speedway at 183rd and Old Highway 99; and scattered commercial uses along Old Highway 99 south of the Grand Mound UGA (e.g., gas stations, eating and drinking establishments, and small retail and convenience stores). The largest and most compact commercial areas are located within the Grand Mound UGA and in downtown Rochester. However, continuing demand for commercial growth is evident by the recent approval of a new Red Apple grocery store at Highway 12 and 184th Avenue. Commercial development currently accounts for approximately 103 acres outside of the Grand Mound UGA and Rochester downtown areas.

Industrial-type development that is not resource-related (i.e., associated with agriculture, forestry or mining) is very limited in the GSA, accounting for only 48 acres of land. A large telephone pole yard exists in the Rochester town core area between Highway 12 and the railroad along with a few scattered automobile junk yards, and a log home manufacturing facility adjacent to I-5 and Loganberry Drive. Home-based occupations and cottage industries (and associated uses) are allowed under the MDR zoning designation. While not prevalent, there are examples of these uses scattered throughout the area and some conflicts have occurred between these uses and adjoining residential neighborhoods (e.g., truck parking, log storage, etc.).

Gravel mining is a significant resource-based industry within the GSA at the present time. At present, more than 116 acres are currently being mined within the area. All of the current gravel mining operations are located within or immediately adjacent to the Grand Mound UGA. Gravel mining is permitted as a special use under the MDR zoning, subject to hearing examiner review and approval. This use creates employment opportunities within the GSA, but also contributes significant truck traffic to the local road network and is a subject of growing concern over the impacts of mining on the groundwater aquifer. There are no long-term mineral resource lands designated within the GSA.

Public and institutional uses comprise 460 acres of land within the Study Area. Major uses include the Maple Lane Correctional Facility along Old Highway 9 (a 250-person capacity state facility for juvenile offenders), the Rochester High School and Grand Mound Elementary School between James Road and Old Highway 9, and the Rochester Primary and Middle Schools in downtown Rochester. Other significant public uses include the cemetery along 183rd and the County-owned buildings and electrical substation at Sargent Road and 183rd, and the Swede Hall civic building in downtown Rochester. Several churches and the fire department station are also located within downtown Rochester. The Scatter Creek Wildlife Area, managed by the Washington Department of Fish and Wildlife, transcends part of the Study Area north of 183rd Avenue, including portions of Scatter Creek.

Total acres of existing land uses within the Study Area are shown in the following table:

Table 1
Rochester Growth Study Area
Existing Land Use

Land Use Type	Gross Acres	Percent (%) of Total Acres
Vacant/Open Space	5,512	57.0%
Residential (Low Density)	2,137	22.0%
Residential (Medium Density)	37	0.4%
Agriculture/Agri. Processing	1,127	12.0%
Commercial	103	1.0%
Industrial	48	0.5%
Gravel Mining	132	1.4%
Public/Institutional	460	5.0%
Recreation	33	0.3%
TOTALS	**9,589**	**100.0%**

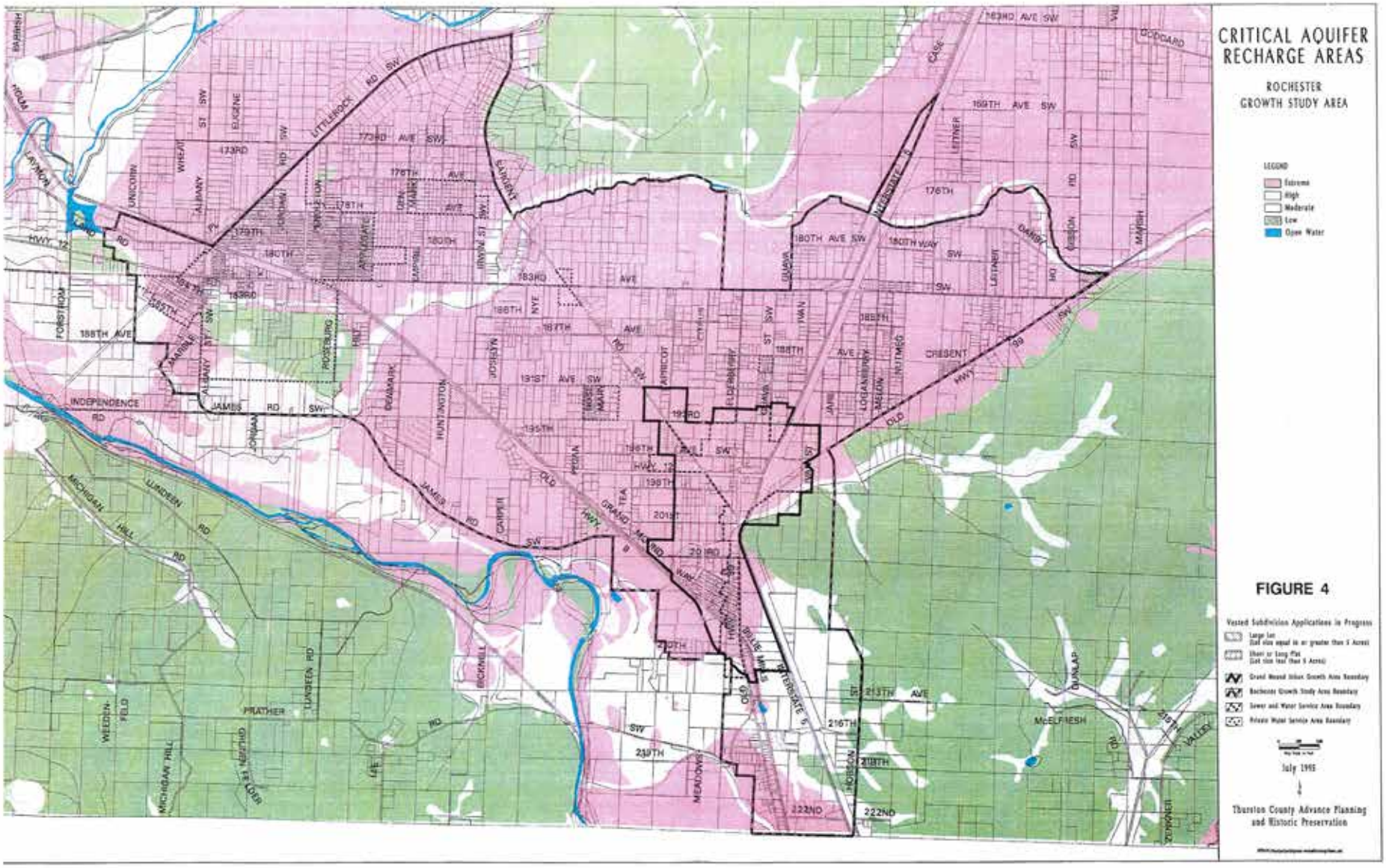
Sources: Barrett Consulting Group, Inc.; Thurston Regional Planning Council

ENVIRONMENTALLY SENSITIVE AREAS

Flanked by the Chehalis river to the south, the Black River and Capitol Forest to the west, and Scatter Creek to the north, the Study Area lies nestled in a broad reach of prairie and woods landscape collectively known as the Mound Prairie. Located in the Chehalis River basin, the majority of the area is characterized by relatively flat topography, with extremely well-drained glacial sand and gravel soils. So well-drained are the soils that practically the entire area is characterized as a critical aquifer recharge area — resupplying the groundwater supply to most of south Thurston County through rainfall infiltration. Scatter Creek, a tributary of the Chehalis river, forms both a portion of the Study Area boundary and later bisects the area prior to entering the Chehalis near Rochester.

Critical aquifer recharge area designation is the single most important environmental factor affecting the future growth of the Study Area. As shown in Figure 4, the entire Study Area is underlain by glacial outwash materials, which constitute the highest rates of aquifer recharge potential in the County. The area is also classified as a Category One Aquifer by Thurston County — a designation that implies the greatest limitations on land use types and densities allowed by the County in order to protect groundwater quality. The Critical Aquifer Recharge Area designation indicated in Figure 4 complies with the GMA requirements for critical area protection in the County Comprehensive Plan.

Groundwater supplies all drinking water within the Study Area and almost all of the water supply for the rest of south Thurston County. It is a critical resource since almost all of the surface water supply has already been appropriated. Besides supplying the domestic water supply for the GSA, the aquifer also provides water for irrigation, industrial processing and aquaculture. Natural groundwater also provides


CRITICAL AQUIFER RECHARGE AREAS
ROCHESTER GROWTH STUDY AREA
LEGEND
Extreme
High
Moderate
Low
Open Water
FIGURE 4
Vested Subdivision Applications in Progress
July 1995
Thurston County Advance Planning and Historic Preservation

much of the water flowing into the County's rivers and streams, including the Chehalis and Black River's. The highly permeable nature of the soils underlying the Scatter Creek basin allows rainfall to easily percolate through the soils and provide the major source of recharge to the aquifer. Over much of the Study Area, the depth to groundwater below the surface ranges from as little as 15 to 25 feet. The ease with which rainfall infiltrates the soils, however, also increases the potential for groundwater contamination. This was cogently pointed out in the original 1978 Rochester Subarea Plan:

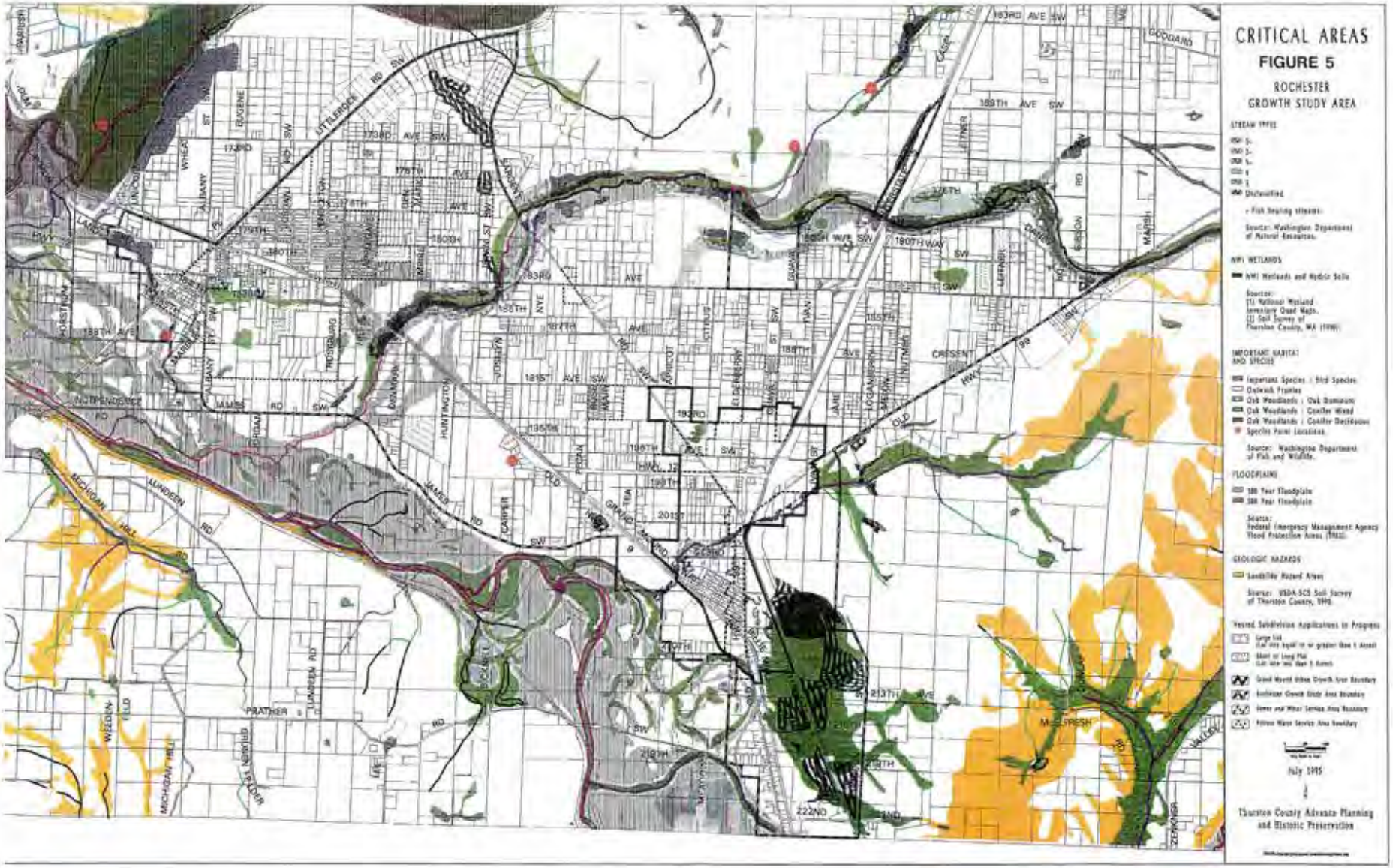
> *. . . there is one aspect of soil limitations [usually] not considered . . . that of soils which drain too rapidly for septic tanks. Septic tanks rely on purification of their effluent by soil microorganisms. Should the effluent percolate through the soil too rapidly for these microorganisms to function effectively, groundwater contamination may result. The cumulative effect of many septic tanks may result in pollution of the aquifer.*

In south Thurston County, the high potential for contamination has already been achieved in some areas. Several wells within the GSA and numerous wells outside but adjacent to the area have been identified by the County Health Department as having elevated levels of nitrate — usually the first indicator of contamination. According to the *South Thurston County Aquifer Protection Strategy* (1993), the highest levels of contamination are strongly associated with the over-application and storage of animal wastes. Most of this contamination is attributed to area livestock operations (primarily dairy, poultry, and feedlot operations). However, another identified source of contamination is on-site sewage systems. This was noted in the original 1978 Rochester Subarea Plan, which identified contamination of the water supply in portions of the south county communities of Bucoda and Oakville that were directly attributable to high concentrations of septic tanks. More recent evidence of this impact is exhibited in the Grand Mound area where elevated levels of nitrates in wells have also been found in connection with a high concentration of on-site sewage systems. This is one of the driving forces behind the County's intention to install a public sanitary sewerage and water supply system in the Grand Mound area — to alleviate the potential groundwater contamination posed by continued concentrated development around the Grand Mound I-5 interchange.

However, it also presents a much more problematic approach to planning the future land uses for those areas within the GSA, but outside the Grand Mound UGA where no public sewer system is currently planned.

Wetlands constitute another critical environmental area subject to development limitations within the Study Area. Wetlands serve many important purposes, including fish and wildlife habitat and flood storage retention. They are also points of direct contact between surface and groundwater and therefore, if polluted, are areas of potential high-risk contamination to the groundwater. The vast majority of wetlands identified in the GSA are associated with the Scatter Creek drainage, as shown on Figure 5, and are located in largely undeveloped areas. Small isolated remnants of older, more extensive wetland systems can be found in some areas, although most of these were drained many years ago for agricultural purposes. Today, outside of Scatter Creek, most of the Study Area is not encumbered with significant wetland areas. The major exception is an area immediately southeast of the UGA between the railroad and I-5 and extending eastward to the edge of the GSA boundary. This is a large area characterized by wetland soils and mostly undeveloped tracts. Development in proximity to wetlands is guided by the Thurston County Critical Areas Ordinance (Chapter 17.15 TCC).

Fish and wildlife habitat areas identify high quality habitat able to support viable populations of native wildlife in the County. Not surprisingly, many of the most important habitat areas remaining in the GSA are also associated with the Scatter Creek drainage (Figure 5). Predominant among these are the Oak Woodlands associated with the riparian ecosystem along Scatter Creek and the Outwash Prairies,


CRITICAL AREAS
FIGURE 5
ROCHESTER
GROWTH STUDY AREA
STREAM TYPES
Unclassified
- Fish Bearing Streams
Source: Washington Department of Natural Resources.
NWI WETLANDS
NWI Wetlands and Hydric Soils
Sources:
(1) National Wetland Inventory Quad Maps.
(2) Soil Survey of Thurston County, WA (1990)
IMPORTANT HABITAT AND SPECIES
Important Species / Bird Species
Oakwash Prairies
Oak Woodlands : Oak Dominant
Oak Woodlands : Conifer Mixed
Oak Woodlands : Conifer Deciduous
Species Point Locations
Source: Washington Department of Fish and Wildlife.
FLOODPLAINS
100 Year Floodplain
200 Year Floodplain
Source:
Federal Emergency Management Agency Flood Protection Areas (1985).
GEOLOGIC HAZARDS
Landslide Hazard Areas
Source: USDA SCS Soil Survey of Thurston County, 1990.
Vested Subdivision Applications in Progress
Large Lot
Short or Long Plat
Grand Mound Urban Growth Area Boundary
Bucklin Hill Urban Growth Area Boundary
Tenino Water Service Area Boundary
Yelm Water Service Area Boundary
July 1995
Thurston County Advance Planning and Historic Preservation

including remnants of native prairie vegetation, located in the Scatter Creek Wildlife Area and in some undeveloped portions of the GSA east of I-5 between 183rd Avenue and Old Highway 99. Development within important habitat and species areas is guided by the Thurston County Critical Areas Ordinance (Chapter 17.15 TCC).

Floodplains are also delineated on Figure 5, including both 100-year and 500-year events. These are also strongly related to the Scatter Creek drainage and include some 100-year floodplains along old meander scars and channels. Development is discouraged in floodplains in order to reduce potential flood damage to structures, avoid loss of human life, and to preserve as much of the ability of the creek's channel capacity as possible to efficiently permit the flow of floodwater downstream. Development within floodplain areas and along stream corridors is guided by the Thurston County Critical Areas Ordinance (Chapter 17.15 TCC).

Geologically hazardous areas include those areas particularly subject to erosion, siltation, landslide, or other seismic hazard. Due to the relatively flat topography of the Study Area, there are no identified landslide hazard areas within the GSA (Figure 5). However, potential areas include mining areas and mined-over lands and preserving aquaculture areas from degradation, i.e., siltation, from upland sources. Development within geologic hazard areas is guided by the Thurston County Critical Areas Ordinance (Chapter 17.15 TCC).

POPULATION AND SOCIOECONOMIC CHARACTERISTICS

According to the 1990 Census, there were approximately 4,930 persons living in the Rochester Growth Study Area. Population characteristics by age and gender indicate similar ratios to the rest of Thurston County. The only difference was in the gender population, where the GSA is populated by slightly more males than females, as opposed to the overall County where females slightly outnumber males. The age distribution data indicates a fairly normal distribution, with the 25-to-34 and 35-to-44 age cohorts (baby boomers) being the two largest age groups (16 percent and 15 percent of the population, respectively). They are followed in size by a burgeoning juvenile population: the 5-to-11 and 12-to-18 age cohorts each account for 12 and 11 percent of the total population, respectively.

The average household size is approximately 2.8 persons (compared to the County average of 2.55). A slight increase from 1980 and indicative of the national "baby boomlet" trend (i.e., baby boomers having babies). Almost two-thirds of the total households in the Study Area are married couples. Non-family households account for 22 percent of all households in the Study Area (though less than the 30-percent figure for the total County).

Household income levels are generally lower in the Study Area when compared with the entire County. Especially troubling, however, is the fact that more than one-quarter (27 percent) of the population in the Study Area is defined as having income levels ranging from "below to just above" the poverty line in 1990. This is defined as the number of persons with income levels which range from less than 50 percent below to 174 percent of the poverty line. (In 1990, the U.S. Census reflected a poverty level of $12,674 annual income for a family of four.) Fully 22 percent of all households in the Study Area earned less than $12,500 in 1990. This is an important factor in the consideration of affordable housing within the Study Area.

Types of household income earnings (e.g., wage and salary, pensions, public assistance, etc.) are useful indicators of household earnings limitations, local participation in the labor force, and householders' ability to react to changing market conditions (i.e., ability to afford increases in cost of living, land and

housing values, taxes, etc.). In general, those households which include wage and salary incomes are typically best able to react to changing market conditions, while those relying solely on fixed incomes (e.g., social security) are more susceptible. More than 77 percent of households reporting in 1990 indicated wage and salary income earnings; investment and rental income earnings were reported by more than 36 percent of reporting households; and social security and retirement income earnings (i.e., pensions, IRA's, etc.) were reported by 44 percent of households. Self-employed income earnings were reported from 12 percent of households; public assistance income was reported by 8 percent of households; while farm income earnings were reported by only 1.1 percent of households in the Study Area. This distribution does not significantly differ from the data reported for the entire County.

HOUSING

According to the 1990 Census, there were 1,832 total housing units within the Study Area. Of the total supply, 69 percent were owner-occupied, 25 percent were renter-occupied, and 6 percent were vacant. The housing tenure characteristics for the GSA indicate a higher ratio of owner-occupied units than that for the overall County (69 percent versus 60 percent) and, conversely, a lower ratio of renter-occupied units (25 percent versus 33 percent). The vacancy rate for both areas is comparable (6 percent) and is within the average range for typically healthy housing markets (3 to 8 percent).

The single largest type of housing structures are single-family detached units, which account for almost 49 percent of the total supply — 79 percent of which are owner-occupied. Mobile homes represent the second largest share of housing types in the Study Area, accounting for 43 percent of the total supply — 69 percent of which are owner-occupied. Multi-family structures (2 units or more/structure) accounted for less than 8 percent of the total supply— 90 percent of which were renter-occupied. Duplexes represent the largest share of multi-family units in the GSA. However, among all housing types, duplexes exhibited the lowest vacancy rate (1 percent), indicating a very tight market for these types of units. The types of housing units within the GSA differ significantly from the rest of the County in two principal areas: 1) a much higher ratio of mobile homes (43 percent in the GSA and only 15 percent county-wide); and 2) a much lower ratio of multi-family units (less than 8 percent in the GSA and 23 percent in the total county). This is indicative of the different nature of the housing market in the Study Area — one geared toward a rural exurban market, as opposed to the higher density more urbanized market of the UGAs in the north County where the majority of the County's population resides.

The predominant pattern of residential development in the Study Area are single-family units on large lots (i.e., 1 acre or greater). According to the 1990 Census, the median owner-occupied housing value in the Study Area was $61,9000. This was significantly lower than the County median housing value of $79,700. Much of this difference can be attributed to the large presence of mobile homes and to the fastest growing segment of the Study Area's housing market — manufactured homes. Existing County development regulations, including residential zoning, do not differentiate between a site-built, single-family unit and a factory-built dwelling manufactured after 1976 (in accordance with the National Manufactured Housing Construction and Safety Standards Act). Manufactured homes are becoming increasingly popular because they offer a more affordable housing product to a larger segment of the population that might otherwise not be able to afford a site-built, single-family home. Manufactured homes used in the Study Area typically range in cost from $40,000 to $75,000 for floor areas ranging from 1,200 to 2,000 square feet, respectively (excluding land costs). This compares with a range of $80,000 to $100,000 for a typical site-built, single-family home of similar size (excluding land costs). Land costs provide the other significant cost to establishing home ownership.

Land values fluctuate depending on location and size of lot. Raw land prices for a 1-acre lot (with access to community water) are typically in the $30,000 to $35,000 range, while raw unimproved 5-acre lots typically cost $45,000 to $50,000. A 1,350-square-foot, stick-built home on a 1- to 1.25-acre lot typically costs $125,000 to $130,000, while a larger 1,700-square-foot, stick-built home on a 1- to 1.25-acre lot may cost $150,000 to $155,000. Manufactured homes are typically between 25 and 50 percent less expensive than a comparable size custom stick-built home (excluding land costs).

There is limited data available on housing affordability within the Study Area per se. However, some meaning can be gleaned from the 1990 Census data, which reported on the relationship between the monthly household income and mortgage status for owner-occupied units for a sample of households in the GSA. This data indicated that approximately 81 percent of households reporting indicated paying less than 30 percent of their monthly household income for housing mortgage costs (including PITI). This means that the majority of the Study Area population seems to be well within the U.S. Department of Housing and Urban development standards for affordable housing (i.e., monthly housing costs should generally not exceed more than one-third of average monthly household income). Obviously, however, the situation is more acute for those households earning annual incomes close to or below the poverty level. These are the households who can least afford home ownership and must, instead, rely on rental housing, or more affordable higher density housing units, which are presently in very short supply in the Study Area.

CAPITAL FACILITIES

Befitting its largely rural nature at the present time, there is a relatively limited amount of public infrastructure within the Study Area. The Study Area is characterized by rural levels of service for most public facilities.

Sewer and Water Systems

There are no public sanitary sewerage or potable water systems presently within the Study Area. However, Thurston County is actively pursuing development of a public sanitary sewer and water system for the Grand Mound UGA. Initial plans are being formed for development of a first-phase sewer and water system that would serve approximately 450 acres of the 950-acre Urban Growth Area. The public utility improvements would include installation of several public water supply wells within the UGA as well as a wastewater treatment facility providing effluent discharge to the Chehalis River. The single greatest restriction to development of a sanitary sewer system for the UGA is a limitation set by the State Department of Ecology (DOE) of an average annual discharge of 700,000 gallons per day into the Chehalis River from such a facility. This would have the effect of severely limiting potential growth within the UGA that could connect to such a public sewer system within the next 20 years — much less extend the sewer system outside the present UGA boundaries — unless this limitation is overcome or alternative treatment solutions are found. The County's sewer and water general plans are currently being updated to address these issues and determine the best approach.

According to the 1990 Census, more than two-thirds (67 percent) of development within the Study Area currently relies on individual wells for domestic water supply, and 94 percent of residential units rely on-site sewage systems to treat household and commercial wastewater. There are several community drainfields that serve a limited number of isolated higher density residential developments, including several mobile home parks. Individual wells that serve more than 2 units are generally regulated in the County, but do not require a "water right" allocation from the DOE. The water right exemption applies to domestic water supply wells that withdraw less than 5,000 gallons per day (roughly analogous to the

average daily water requirements of 6 typical single-family homes). Approximately 500 units within the Study Area (27 percent) were connected to a community water system (i.e., a common well source supplying water to 5 or more units) in 1990. The majority of these units are served by the largest community water system in the area — the Rochester Water Association.

The Rochester Water Association is a private water purveyor that provides a community water system to portions of the Study Area (Figure 1). The Association has a water right to withdraw 112 acre/feet per year. The Association's water system is comprised of three wells, a reservoir and storage tank, and transmission lines that serve the existing service area. The service area includes the town core of Rochester and portions of the existing residential area north and east of Rochester from Littlerock Road to Irwin Street between 176th and 183rd Avenue. The Association currently serves approximately 266 connections, and is approved to supply a maximum of 422 connections under their existing water right permit. Water consumption for a typical single-family home on the system averages between 750 to 850 cubic feet per month (approximately 200 gallons/day). The Association charges a minimum $1,000 connection fee. The average monthly service charge per single-family home is currently about $22, according to the Association.

Water consumption information for the existing Subarea is based on water rights data available from the DOE *(Pacific Groundwater, 1991)*. The data, as shown on Table 2, indicates that the two dominant water users in the Scatter Creek basin are aquaculture (fish propagation) and agriculture (irrigation). These users collectively account for more than 95 percent of the total groundwater consumption within the basin. Domestic and public water supply users account for less than 3 percent of total annual consumption.

Table 2
Water Right Allocations
Scatter Creek Basin

Consumption Type	Annual Volume
Fish Propagation	24,000 ac-ft/year
Irrigation	9,000 ac-ft/year
Public Water Supply	900 ac-ft/year
Stock and Other	350 ac-ft/year
Domestic	100 ac-ft/year
TOTAL	**34,350 ac-ft/year**

Source: Pacific Groundwater, 1991

According to analysis conducted by Pacific Groundwater (1991), *"...experience in other counties indicates that many water rights are not fully used. The differences between non-used rights and unaccounted users without rights* [i.e., individual domestic water supply wells that withdraw less than 5,000 gallons per day] *may be self-cancelling. In addition, a large portion of the allocation for fish propagation and irrigation may not be consumptively used (i.e., a large percentage of these groundwater withdrawals are returned to the system as groundwater recharge). Therefore, net consumption of groundwater within the basin may be considerably less than shown."*

Natural recharge to the Scatter Creek basin (through rainfall, surface runoff and on-site septic effluent infiltration) is estimated to be 64,000 acre-ft/year (Ibid.). Subtracting the estimated annual consumption

(34,350 ac-ft/year) indicates that approximately 29,650 ac-ft/year of groundwater discharges from the basin. A figure that, in fact, may be much higher given the nonconsumptive nature of many of the existing water use allocations.

Public Safety

Police protection services within the Study Area are provided by the Thurston County Sheriffs Department. A sheriff's department substation is located at the Key Bank building on Old Highway 99 (within the UGA). The substation serves a surrounding larger district that includes both the UGA and the remaining portions of the Study Area. There are presently five deputies on a 24-hour watch assigned to the district. Between 1 to 2 deputies are on duty at any given time. The Sheriff's Department plans to increase the number of deputies from 5 to 9 within the next several years. The Washington State Patrol also has troopers which patrol I-5 and SR-12. The troopers are available to backup the sheriff's officers if they are needed.

The department reports an average response time of 9 minutes for emergency calls. While this response time is somewhat slow, it is indicative of the manpower shortage experienced by the department. The current level of service of the department (county-wide) is 0.7 officers per 1,000 population — well below the national and even state averages for suburban counties. The most frequent calls for service are for property-related crimes and misdemeanor assaults. The crime rate in the district has been increasing steadily during the 1990s. Total service "case" calls in the district increased from 4,288 in 1992 to 7,155 in 1994, an increase of more than 66 percent. Serious crimes increased from 533 in 1992 to 722 crimes in 1994, an increase of 35 percent. In general, the department reports that more rural lower density areas report significantly less crimes, and hence, require less costly sheriff's services than do more urbanized areas.

Fire protection and emergency medical services within the Study Area are provided by Grand Mound Fire District 14 and Rochester Fire District 1. Each district is staffed by all volunteers and managed by a three-member elected Fire Commission Board. These services are primarily financed through property tax levies. General obligation bonds are sometimes issued for major capital improvements, including equipment or station improvements. All volunteers are trained in basic life support services (BLS). Advanced life support services (ALS) are provided by the Medic One program throughout the County. The closest ALS aid unit is stationed in Tenino. Mutual aid agreements with all adjacent districts are in effect in the case of major events.

The Grand Mound FD 12 services a 26-square mile area, including the eastern portion of the GSA. Its current assessment rate is $0.98/$1,000 assessed value, which is only $0.02 short of the $1.00/$1,000 levy maximum for all-volunteer districts. Its annual budget averaged $70,000 over the past several years. FD 12 has 25 volunteers and 2 fire stations — the main station along Old Highway 99 (within the UGA) and a sub-station on Michigan Hill Road. The district also provides service to the Maple Lane Correctional Facility on a contract basis. FD 12 is equipped with two tanker trucks: 1 with 1,500-gallon capacity and the other with 3,250 gallons; 3 pumper trucks with capacities of 500, 750 and 1,000 gallons respectively; a brush truck to fight brush fires; and 2 BLS Aid Units. The district has a 4 to 6 minute average response time for calls within the Study Area.

The district receives the bulk of the response calls within the area — approximately 600 responses for fire and EMS last year alone, with 80 percent of those calls for EMS assistance. As many as 200 to 250 of those responses are for service along I-5, for which the district receives no reimbursement. The district has experienced a 66-percent increase in assistance calls since 1990. The growth in demand for fire protection services, especially within the UGA, is likely to require additional staff and equipment

within the next 10 years. It is also likely that the increased demand will lead to increased levies to fund some full-time paid firefighters, probably after the year 2000.

The Rochester FD 1 services a 35-square mile area, including the western portion of the GSA. Its assessment rate increased from $0.89/$1,000 in 1992 to $1.00/$1,000 assessed value in 1993 — which is the maximum levy allowed for all-volunteer districts. Its annual budget will increase from $149,000 in 1995 to $166,000 in 1996. FD 1 has 35 volunteers (increasing to 40 in 1996) and one fire station located on Albany Street in downtown Rochester. FD 1 is equipped with 2 tanker trucks, each with a 3,300-gallon capacity; 2 engine trucks with capacities of 1,000 and 750 gallons, respectively; and 1 BLS Aid Unit. The district has a 4-to-6-minute average response time for calls within the Study Area. FD 1 also provides service to the Chehalis Tribal Reservation under a contract, including the new Lucky Eagle Casino.

The district responded to more than 600 calls for fire and EMS in 1995, with 75 percent of those calls for EMS assistance. The district experienced a 33 percent increase in assistance calls since 1993. Assistance calls to the Chehalis Reservation (mostly the Casino) accounted for 9 percent of the total calls in 1995, but is expected to double in 1996 to 18 percent of total calls. Some additional funding may be available through grant applications from the net proceeds of the Tribe's casino operations to affected agencies in Thurston County. The district expects that growth in demand for fire services is likely to require additional staff and equipment within the next 10 years. It is also likely that the increased demand will lead to increased levies to fund some full-time paid firefighters within the next 5 years. The construction of a new station is a long-term consideration which would likely be provided through a joint venture with Grand Mound FD 14.

Parks and Recreation

There are few organized park and recreational facilities within the GSA. Limited facilities (e.g., baseball/football fields, running track, basketball courts, etc.) are provided by the School District at the elementary, middle and high school. However, access is limited for non-school use of these facilities. There are also several privately operated recreational facilities in the Study Area, including a baseball park (Hoss Field) located on 196th Avenue S.W., the Grand Mound Driving Range along Old Highway 9, and a motocross track on Jare Street. There are also several regional outdoor recreation areas adjacent to the Study Area, including the Scatter Creek Game Preserve, Capitol Forest, and Black River boat launch facility.

The Grand Mound-Rochester Parks and Recreation District is the local provider of parks and recreation services in the GSA. The District, which includes its own elected board of directors, currently has no significant or consistent funding source, so its ability to provide services is limited. The District has one piece of undeveloped property set aside as a future community park, but lacking a voter-approved assessment, the property has not been developed for recreational use.

Since the District exists as the local parks and recreation service provider, the Thurston County Parks and Recreation Department has not actively pursued locating facilities within the GSA. The Department does provide recreation programming in the area and manages a natural area, a preserve, and will manage a recreational trail (to be acquired in 1996 for hiking, biking, equestrian, and other recreational uses) just outside the GSA boundaries. The Department coordinates its activities with the District and also provides technical assistance to the District on recreational needs within the Study Area, as requested. The Parks and Recreation Department may assume a more active role in delivering recreational facilities to the area should District funding limitations continue and/or growth warrants.

Schools

Almost the entire Study Area is served by Rochester School District No. 401. The District provides public education for grades K-12 as well as educational instruction for the residents of the Maple Lane Correctional Facility. The District operates four main schools. Facilities include the Rochester Primary School (K-2), Grand Mound Elementary (3-5), Rochester Middle School (6-8), and Rochester High School (9-12). The schools and their respective 1995 enrollment figures are shown in Table 3. Total 1995 enrollment was 1,694 students, down slightly from the 1994 level of 1,735 students. The slight decrease in 1994-1995 enrollment is an anomaly in an otherwise fast growing district. Both the 1993 and 1994 school year enrollments exhibited average increases of approximately 70 students each year. Enrollment projections by the District indicate a total of approximately 2,000 students by the year 2000.

Table 3
Rochester School District No. 401
1995 Enrollment by Facility

School	Grade Level	Enrollment
Rochester Primary School	K-2	394
Grand Mound Elementary	3-5	370
Rochester Middle School	6-8	431
Rochester High School	9-12	499
	TOTAL	**1,694**

Source: Rochester School District 401

Even if no further growth were to occur, the District has indicated that significant improvements already need to be made. The District currently suffers from overcrowding — most acutely at the Rochester Middle School and Primary School. Classroom size averages hover around the state minimum standards (25-26 students per classroom). However, portable classrooms are needed at both the Middle School and the High School. The District floated a bond issue to voters in 1994 to construct a new Middle School that failed. The District currently operates with an approximately $11 million annual budget. Of that amount, less than $1 million is accounted for by the local property tax levy. The current levy rate is $3.01/$1,000 assessed value. The continued need for improved facilities (and failed bond votes) is likely to place upward pressure on the levy rate in the future. The District is exploring other avenues to enhance revenue sources, including the use of mitigation fees for new plats and residential development.

TRANSPORTATION

The GSA is located at the crossroads of the south county regional transportation network. Located astride the I-5 and SR 12 corridors, it is located along the main link between Portland and Seattle. The I-5 corridor through the Study Area currently carries 44,000 average daily trips, which account for more than 16 million vehicle trips each year. Rail access is also excellent, with Burlington Northern trackage located along both the I-5 corridor through Grand Mound and along SR-12 through Rochester.

The Study Area is greatly impacted by pass-through traffic from outside the area along the two state highways: I-5 and SR-12. The major county arterial within the Study Area include Old Highway 99, Sargent Road, and Littlerock Road. County collector streets include Old Highway 9, James Road, Albany Street, 183rd Avenue S.W., 173rd Avenue S.W., Case Road, and Denmark and Carper Streets. The rest of the road network is comprised of local residential and private streets. Many of the private residential streets serving subdivisions and plats are dirt roads.

The rural character of the Study Area is reinforced by the existing road network standards. Local streets within the area are built to "rural road standards," as defined by the County. Rural roads are characterized by having 12 feet or fewer of asphalt per lane, with few shoulders and designed for low traffic volumes. These roads do not presently contain bike lanes.

The transportation system was analyzed using level of service (LOS) analysis for all major arterials and intersections within the GSA. LOS is a qualitative measure of traffic conditions on a scale ranging from "A" to "F," with "A" representing good operating conditions with little or no traffic delays, and "F" representing poor operating conditions with excessive traffic delays. The Thurston County Comprehensive Plan adopts a minimum rural level of service on county arterials of LOS "C."

Traffic volume data indicate several areas of concern relating to congestion and traffic safety. The areas of highest traffic volume occur on the major arterials in the Study Area. State Route 12 currently carries more than 12,000 vehicles per day through the Study Area. Old Highway 99 east from the I-5 overpass carries the same daily traffic load to portions of the south county.

However, the only intersections and road segments at or below their minimum LOS at the present time are:

- ***The intersection of SR-12/Old Highway 99/Sargent Road.*** This intersection currently operates at LOS "E," with up to 40-second vehicle delays. The existing intersection configuration is heavily overloaded (especially on Sargent Road). This is the worst operating intersection in the entire area. It is also the most important, as it is the only access point to the I-5 interchange within the GSA.

- ***The segment of Old Highway 99 east of I-5.*** This road segment contains the most accidents in the entire Study Area. It carries more than 12,000 vehicles per day — most of which are pass-through traffic. However, lacking a turning lane, significant conflicts occur with local (left turn) traffic into the local residential streets, especially at Loganberry, Nutmeg, and Melon.

The remaining intersections outside of the UGA are currently operating at or above the minimum LOS "C." The heaviest travelled road segments outside the UGA include Sargent Road, Old Highway 9, 183rd Avenue, and Littlerock Road, as shown in Table 4.

A complete analysis of the Rochester-Grand Mound Subarea traffic system, including recommendations for improvements and phasing are being completed by Bell-Walker Engineers.

Table 4
Rural Arterial Traffic Volumes
Rochester Growth Study Area

Road Name	Segment	Average Daily Traffic
Sargent Road	SR-12 to 183rd	5,500 trips/day
183rd Avenue S.W.	Scatter Creek to SR-12	2,200 trips/day
Old Highway 9	Highway 99 to SR-12	2,600 trips/day
Littlerock Road	SR-12 to Sargent Road	1,900 trips/day

Source: Bell-Walker Engineers, 1995

Transit service in the Study Area is provided by Intercity Transit, the public transit operator for Thurston County. Service was expanded in 1993 to link the urban areas of north county with the Rochester-Grand Mound area. Two fixed routes serve the GSA today: 1) Route 92 operates between Yelm, Rainier, Tenino, and Rochester-Grand Mound; and 2) Route 98 connects downtown Olympia with Rochester-Grand Mound. Frequency of service to the GSA is approximately every two hours, Monday through Saturday, including peak periods. Ridership levels remain relatively low. Intercity Transit also provides connections to the regional transportation system to Pierce County and Seattle through the Grand Mound Park and Ride Lot located at the intersection of I-5 and Old Highway 99.

However, the majority of employed residents who leave the GSA (and the county) every weekday morning, travelling to their places of employment, do not participate in the local or regional public transit system.

GROWTH TRENDS/SPATIAL RELATIONSHIPS

Like many exurban communities, growth in the Rochester area lagged behind that of more developed suburban areas during the early post-war years (1940s and 1950s). Suburban communities (like Lacey and Tumwater) were growing due to the baby boom; the mass accessibility of automobiles; and the location within easy commuting distance to the job centers in the central cities like Olympia, Tacoma and Seattle. During this time, central cities themselves began to lose population to the suburbs and soon after, the jobs as well. So began the well-known national trend of urban to suburban migration. However, as the impacts of growth finally began to catch up with the fast-growing suburban communities during the 1970s and 1980s (and even up until today), many suburbanites felt the pinch of growth and began to look even further away from the central cities in search of relief. So began the less well-known national trend of suburban to exurban migration, which began to affect areas like Rochester. Today, in the 1990s, it is the neo-rural or exurban communities whose growth rates are outstripping their suburban counterparts.

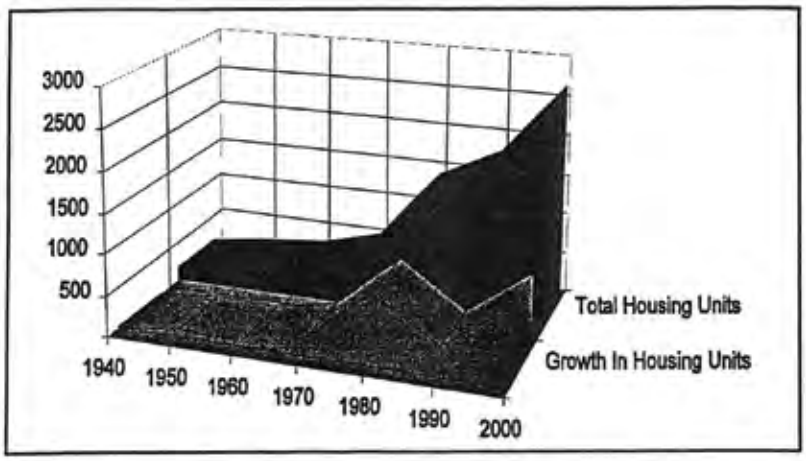
Indeed, the great majority of the housing stock within the GSA (69 percent) are contemporary units built since 1970. As shown on the following figure, residential development really started to take off in the Study Area during the 1960s, a period in which 209 new homes were built. According to the Census data, almost one-half of the entire housing stock (876 units) of the Study Area was built in one decade alone — between 1970 and 1980. Growth of housing development slowed somewhat in the 1980s from the torrid pace of the 1970s, but still accounted for the construction of 362 new units in the decade. Due to GSA boundary differences with building permit location reports by section, it is more difficult to track the exact number of new units built in the Study Area for inter-censal periods. However, analysis of

County data regarding construction of new units by section indicates another surge in residential development between 1987 and 1994. It is estimated that as many as 570 new housing units were constructed between 1989 and 1995 alone within the Study Area. Based on these trends, it is estimated than more than 900 new units could be built in the Study Area between 1990 and 2000.

ROCHESTER GROWTH STUDY AREA

HOUSING SUPPLY

1940-2000



According to County records, the most concentrated areas of population (housing) are located in and immediately adjacent to the Grand Mound UGA and in and around Rochester, extending east of the town core to Sargent Road, in an area basically "sandwiched" between 183rd and 173rd Avenue. The areas of lowest population growth correspond to the sections located along Scatter Creek, marking both the northern boundary of the Study Area and crossing between the communities of Grand Mound and Rochester. Also, the area immediately south of the UGA boundary along Old Highway 99 is relatively sparsely developed compared with the Grand Mound UGA. The concentration of residential development within the Study Area is shown on Figure 6.

Land subdivision activity is fairly consistent with the pattern of residential development in the area. As shown on Figure 7, despite the rapid rates of growth experienced in the past several decades, parcels of 5 acres or larger in size still constitute the majority of the land area. Those areas which display the greatest densities (i.e., parcels less than 2 acres) are concentrated in the area north and east of Rochester, sandwiched between 173rd and 183rd Avenue. In fact, this area exhibits the greatest concentration of 1-acre and 1/2-acre lots in the entire Study Area. This corresponds strongly with the presence and growth of the Rochester Water Association service area (i.e., encouraging the maximizing of densities allowed under the MDR zoning [1 to 2 units per acre] in order to most efficiently provide community water service). At the same time, many other areas have not built out to the maximum density allowed under the current zoning regulations.

PLANNING FOR GROWTH

One of the major tools provided by the Growth Management Act (GMA) to implement growth management objectives is the establishment of an Urban Growth Area (UGA), whose boundary is intended to separate urban areas from rural and resource lands. The intent of the UGA is to allow communities to direct urban growth into areas where growth can be supported by adequate (i.e., urban) levels of facilities and services, including roads, utilities, police and fire services, and schools. Outside of UGAs, the GMA encourages the designation of resource lands (agriculture, forestry and mining), environmentally sensitive areas, recreation areas and rural uses which require much lower levels of facilities and services. The major goal of UGAs (and the GMA itself) is to reduce "urban sprawl" — the inappropriate conversion of undeveloped land into sprawling, low density development. Urban sprawl leads to higher costs of providing facilities and services by spreading development out over a larger area and consuming greater amounts of land.

The GSA is presently probably best described as a "quasi-growth area" in terms of the GMA requirements, in that it exhibits characteristics of both UGA's and rural areas. The purpose of this amendment is to better align the boundaries and the uses within the Study Area to best match future land uses with the requisite ability to provide adequate levels of facilities and services consistent with the GMA.

Criteria for UGA/Rural Lands

Criteria for the designation of UGA's, resource lands, environmentally critical areas, and rural lands are given both within the Growth Management Act and by guidelines promulgated by the Department of Community, Trade and Economic Development, to help guide local governments in the implementation of the act at the local level. Further criteria for the designation of urban growth areas and rural areas within the County have been developed as part of the overall Thurston County Comprehensive Plan. These criteria are very important; they are, in essence, the rules which set the limits of the playing field and by which future planning efforts must abide.

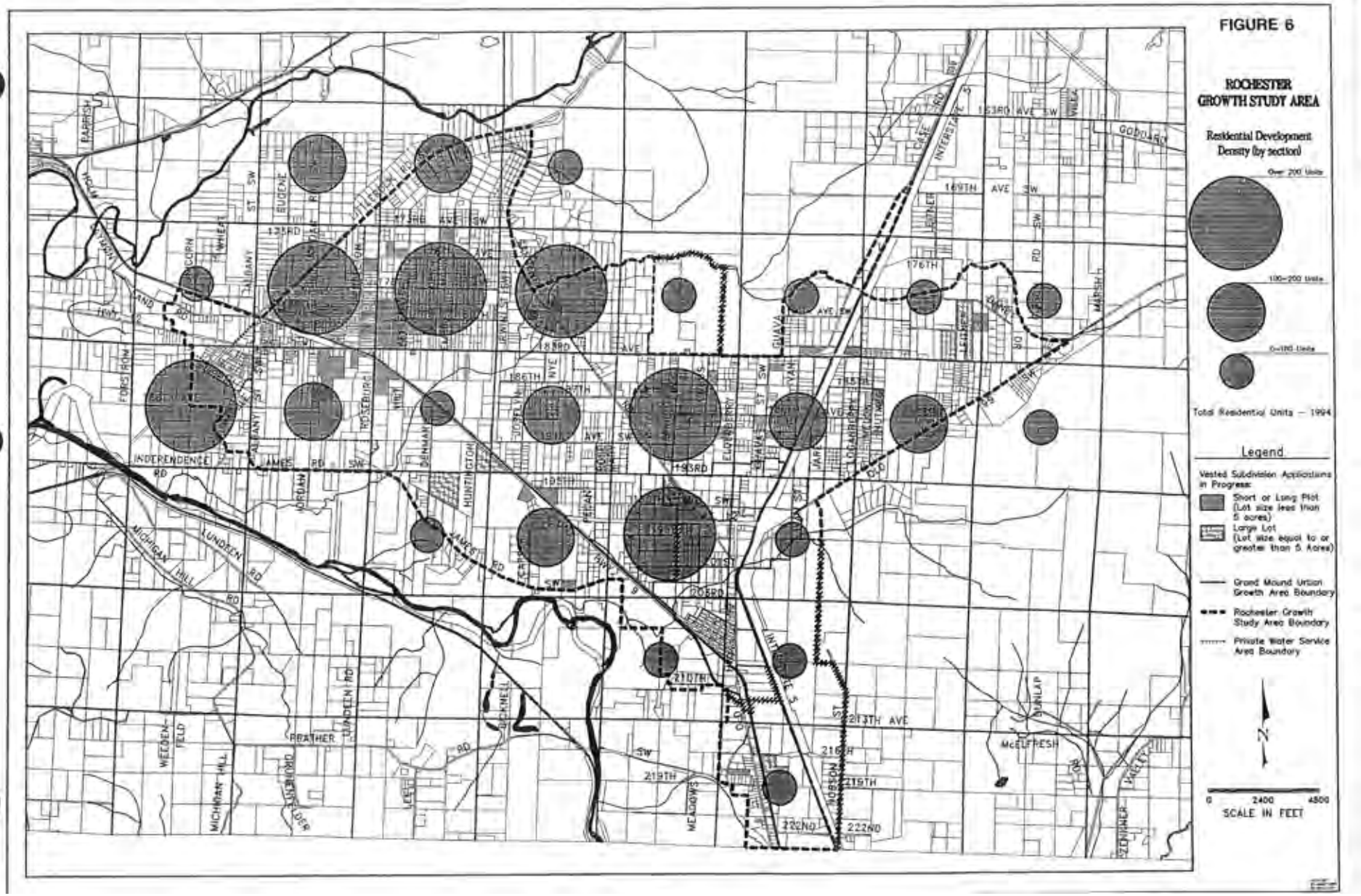
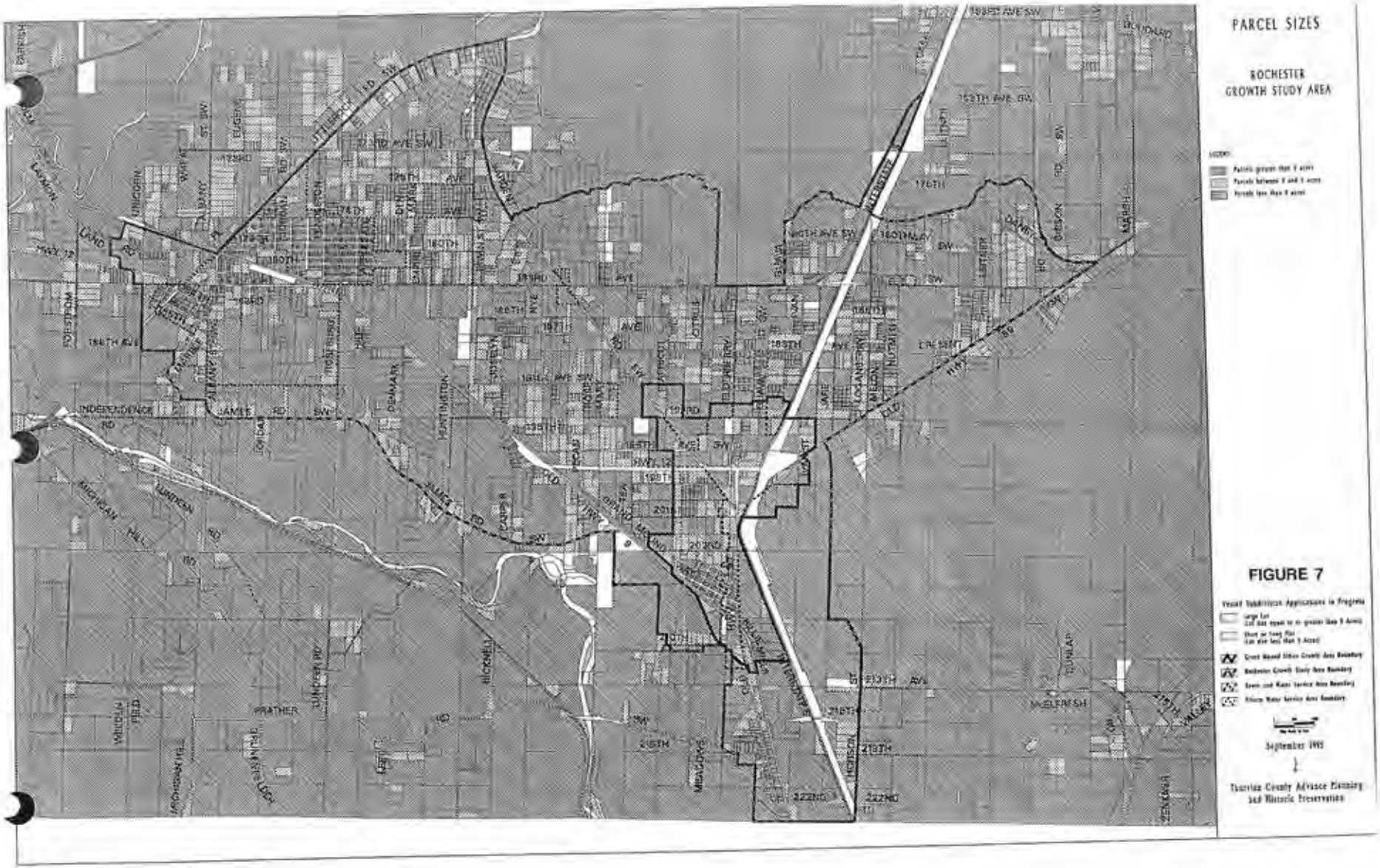


FIGURE 6
ROCHESTER
GROWTH STUDY AREA
Residential Development
Density (by section)
Over 200 Units
100-200 Units
0-100 Units
Total Residential Units - 1994
Legend
Vested Subdivision Applications in Progress:
Short or Long Plat (Lot size less than 5 acres)
Large Lot (Lot size equal to or greater than 5 Acres)
Grand Mound Urban Growth Area Boundary
Rochester Growth Study Area Boundary
Private Water Service Area Boundary
N
0
2400
4800
SCALE IN FEET


PARCEL SIZES
ROCHESTER
GROWTH STUDY AREA
FIGURE 7
September 1995
Thurston County Advance Planning
and Historic Preservation

GMA criteria for the designation of Urban Growth Areas:

- Encourage development in areas where adequate public facilities exist or can be provided in an orderly and efficient manner.
- Area is located adjacent to existing urban development.
- Reduce inappropriate conversion of undeveloped land into urban sprawl.
- Encourage a variety of housing types and densities.
- Ensure that public facilities and services necessary to support development are available at the same time the developed land is available for occupancy and use.
- Area has adequate buildable land to meet the projected demands for housing, commercial, industrial and community service uses for the next 20 years.
- Land characteristics (including natural features) are capable of supporting urban development without significant environmental degradation.
- Area does not have current resource land designations and should be able to develop without significant detrimental effect on nearby resource lands.
- Takes advantage of physical features such as rivers or forested greenbelts, which provide a logical separation between urban and rural uses.

In addition to the GMA criteria for UGAs, the Thurston County Comprehensive Plan has adopted specific policies for Urban Growth Areas within the County. The complete set of policies are contained in the Appendix. These policies were used in the designation of the 950-acre Grand Mound UGA. Any proposals of either expanding the Grand Mound UGA, or establishing a new UGA for the Rochester Growth Study Area would have to comply with these policies. For the purposes of the GSA, those policies which most directly impact the Study Area are listed below:

- Concentrate medium and higher density development in urban growth areas in a way that ensures ... high quality urban services at the least cost.
- Encourage infilling in areas already characterized by urban growth that have the capacity and provide public services to serve urban development.
- Where urban services and utilities are not yet available, require development to be configured so urban development may eventually infill and become urban
- Residential development in urban growth areas should include a variety of housing types, with most densities ranging from 4 to 16 units per acre or higher. Densities should be high enough to support efficient public services and provide affordable housing choices. In areas where urban growth and sewer extensions are scheduled to take place later, residential development should be kept at very low densities for the short-term, or developed in a manner that will not preclude later infilling at higher densities.

- A broad range of industrial and commercial development may occur in urban growth areas, including the larger and more intensive types of development that require higher levels of services and facilities.

- Commercial centers should be encouraged, rather than narrow strip development in order to protect the ... environment, provide efficient land use, and improve traffic safety and travel.

- Higher levels of public services and facilities should be provided in urban growth areas, such as water supply; sanitary and storm sewers; police and fire protection; paved streets with curbs, sidewalks and street lights; and public transit and bicycle paths. Other services may include community and neighborhood parks, government offices, libraries, medical facilities, manned fire stations, and animal control.

Based on these criteria, at first blush, it appears that limited portions of the Study Area, including the old town core of Rochester and some residential developments which include older mobile home parks, duplexes ,and higher density developments (with densities of 4 units per acre or more), within the GSA might qualify as an urban growth area. Unfortunately, with the exception of the town core of Rochester, most of the higher density residential development is small and scattered throughout the Study Area, and is not in a compact area easily served by public facilities such as an expanded sanitary sewer system.

The GMA defines rural lands not by what they are, but by what they are not:

> *"... all lands which are not contained in an urban growth area and are not designated as natural resource lands having long-term commercial significance for production of agricultural products, timber, or the extraction of minerals." (WAC 365-195-210[19])*

The GMA provides significantly less guidance to local governments regarding rural land use designations and densities, than it does regarding urban growth areas. Instead, that guidance is provided by the Growth Planning Hearings Boards. The Boards were established to function as the arbiters of appeals to local GMA plans and other requirements, and to provide further interpretation of the Act relative to local governments in the region. Regional Boards were established throughout the state to cover specific geographic areas. The Western Washington Board, located in Olympia, hears all challenges to GMA-related actions proposed by local governments west of the Cascades, excluding Pierce, King, and Snohomish counties. The Western Board's jurisdiction includes Thurston County. Decisions by the Board on GMA cases function as precedents for subsequent related GMA proposals by other local governments in the region.

The Western Board's decisions regarding residential lot sizes in rural areas are the most significant in terms of their influence to the GSA. The most influential case in the region affecting residential densities was *City of Port Townsend v. Jefferson County*, WWGMHB No. 94-2-0006. The Board held that 1:1 residential densities (i.e., 1 unit per acre) generally do not comply with rural land use designations, or even urban growth area designations. The Board concluded:

> *Candidly we are not disposed to adopt a "bright-line" rule that prohibits the use of 1:1 density in each and every case. We agree that 1:1 density can easily lead to a violation of the anti-sprawl goals and requirements of the Act as well as cumulatively place new demands for urban government services in violation of the Act We would expect that very rarely, if ever, would a 1:1 density requirement in rural, or even most urban, designations comply with the Act. It is possible that a situation involving a proper*

background analysis for an area demonstrates that a 1:1 density within a "variety of densities" could be within the discretion of local government officials authorized by the GMA.

This is an especially important ruling given the significance of the 1:1 density within the GSA. It also makes the GSA planning and rezoning effort much more problematic. Thurston County Comprehensive Plan policies already designate the base rural residential density at one unit per five acres for most rural parts of the County (i.e., those areas outside of urban growth areas, such as the Grand Mound UGA). The Western Board has also ruled on some related rural land use issues that may have relevance to the GSA. The Board does appear to be evolving a "bright line" rule that prohibits non-resource dependent commercial and industrial development in rural areas (*Friends of Skagit County et al. v. Skagit County*, WWGMHB No. 95-2-0065).

The Thurston County Comprehensive Plan also includes policies regarding designation of residential densities in rural areas of the County that must be used as a guide in determining future residential land uses in the Study Area:

Policies:

1. ***One dwelling unit per 5 acres (1/5)*** should be the common residential density level in rural areas. This density level should be applied to areas which:
   a. may have severe soil limitations; steep slopes and/or very limited groundwater;
   b. are in/or adjacent to farm or forest lands or aquaculture management districts;
   c. are too far from urban areas to enable cost effective provision of public services, or contain land uses that do not require extension or provision of urban services; and
   d. are in larger parcels, over 5 acres in size.
2. Residential densities of up to ***1 unit per 2 acres (1/2)*** may be located in rural areas in relatively small areas under the following conditions:
   a. to provide a buffer between existing rural developments and areas of higher or lower densities;
   b. to provide a transition between existing rural residential subdivisions and lower intensity rural areas;
   c. a higher density than 1 unit per 5 acres already exists; and
   d. soil conditions are able to handle the cumulative long term impacts of on-site sewage disposal without adverse impacts to ground and surface waters.
3. Residential densities of ***1 unit per acre (1/1)*** may occur in rural areas adjacent to urban areas under the following circumstances:

a. to provide buffers between rural areas and high urban densities where no natural buffers such as ravines and public open space exist;

b. where site development practices such as clustering will also be used to buffer rural areas and to maintain large tracts of open areas;

c. where there is already an existing mix of higher density residential developments, scattered single residences and small farms, and where some exclusively residential developments are expected to continue to occur;

d. where the existence of extensive environmental development constraints is expected to result in an overall density average lower than 1 unit per acre; and

e. where soil conditions are able to handle the cumulative long-term impacts of on-site sewage disposal without adverse impacts to ground and surface waters.

Projections for Growth

The Thurston Regional Planning Council is the official agency that projects growth and employment forecasts for all of Thurston County. The TRPC coordinates with the State Office of Financial Management (OFM) in determining realistic population and employment projections for the County and then allocates that growth by subareas within the County. The growth projections for the GSA were developed as a part of the subarea population allocation model by the TRPC. The projections are based on past growth trends, including the most recent building permit data, and are allocated by traffic analysis zone (TAZ) within the GSA. Growth projections by 5-year increments for the period from 1995 to 2020 for the GSA are presented in Table 5.

Table 5
Rochester Growth Study Area
Projected Population Growth
1995-2020

Growth Period	Projected Population Increase	Total Projected GSA Population	Percent Increase (Annualized)	Projected Increase in Housing Units
1989-1995	*1,535*	*6,465*	*5.2%*	*570*
1995-2000	960	7,425	3.0%	394
2000-2005	658	8,083	1.8%	269
2005-2010	802	8,885	2.0%	328
2010-2015	978	9,863	2.2%	391
2015-2020	1,021	10,884	2.1%	406
TOTAL 1995-2020	**4,419**	**10,884**	**2.7%**	**1,788**

Sources: Thurston Regional Planning Council; Barrett Consulting Group, Inc.

In 1990, the U.S. Census reported a total population of 4,930 for the GSA. The current 1995 population of the Study Area is estimated at 6,465 persons based on the growth in residential building permits since

1990, a 6 percent vacancy rate in total units, and an average household size of 2.8 persons, as reported in the 1990 Census.

The TRPC projections indicate a total 1995-2020 population growth of 4,419 persons within the Study Area. This would result in a projected year 2020 total population of 10,884 persons. Translated to housing demand, this population would require an additional 1,788 dwelling units during the next 20 years. These projections are considered "high" by the TRPC due to the fact that housing unit projections used to derive population growth within the GSA have not been adjusted downward to account for demolitions and conversions of existing dwellings to other uses. This a factor that typically accounts for as much as 2 to 3 percent of the total number of building permits issued annually. Demand for manufactured homes will continue to rise, according to the TRPC, and will account for 55 percent of new homes within the Study Area. Manufactured homes also account for a slightly smaller average household size than traditional site-built homes.

Demand for Land

Residential

The GMA and the Hearings Boards' rulings have also addressed guidelines regarding the relationship between population projections and the allocation of land uses within UGAs. Chief among these is the use of a reasonable land market supply factor when calculating the acreage needed to accommodate the projected population within UGAs. This is called a "safety factor" and is based on the fact that not every acre of land planned for urban growth will be developed over the next 20 years. Therefore, a "cushion" of land supply needs to be factored into the allocation of land uses within UGAs in order to allow for normal real estate market flexibility (i.e., choice), and not artificially restrict the supply of land and consequently inflate land values prematurely. Hearings Boards have generally ruled that a cushion of up to 25 percent in county urban land supply is presumed reasonable. This is an important factor in allocating future land uses consistent with projected population and demand. Since the Hearings Board has also held that 1:1 densities are urban in nature, it creates a constraint on the additional allocation of 1:1 densities (i.e., it should not exceed 125 percent of the demand for 1:1 development based on population growth). Accordingly, the population projections generated by the TRPC include a 1:1 land use acreage absorption component for the planning period.

Based on historic growth trends, TRPC projects an absorption of approximately 1,788 gross acres of residential land to accommodate the projected growth at a 1:1 density. Assuming a 25 percent land market supply factor is added to the total demand, this would mean that a total of 2,235 gross acres of land at a 1:1 density would be needed to accommodate the projected growth. Given the Hearings Board decision regarding 1:1 density, simply allocating the remaining vacant land in the Study Area for 1:1 density would very likely be in violation of the Board's precedent and the anti-sprawl goals of the GMA. However, by mixing the 1:1 density within a "range of densities" in the Study Area and identifying areas suitable for future urban services (and consequently higher densities), it is far more likely to meet the anti-sprawl test.

Commercial and Industrial

Demand for commercial and industrial land is usually associated with the projected growth in employment for the region. Employment projections for the County and its UGAs (with the exception of Grand Mound) are prepared by the TRPC. The TRPC projections disaggregate job growth into the urban growth areas of the County, with the "remainder" allocated to the entire rural area of the County. However, employment analysis for rural portions of the County, including the GSA, are not broken down by

subarea. So reliable employment projection data at the GSA level is not available. However, data regarding existing employment is available from the State Department of Employment Security. Analysis of employment data by TAZ indicates a total 1994 employment of 1,379 jobs within the rural area that covers the majority of southwest Thurston County, including Grand Mound and Rochester (i.e., TAZ's 234, 235 and 237). This compares with the 2,672 total employed persons, who reside within the Study Area, reported by the 1990 Census. A breakdown of employment by type of land use in the area is shown in Table 6.

Table 6
Total Employment
Southwest Thurston County

Employment/Land Use Type	Total Employment	Percent (%) of Total Employment in Area
Government (local and federal)	. 478	35%
Manufacturing & Transportation	58	4%
Wholesale Trade	28	2%
Retail Trade	233	17%
Services	50	4%
Finance, Insurance & Real Estate	5	0%
Resource — Agriculture	140	10%
Resource — Construction	40	3%
Resource — Forestry	332	24%
Resource — Mining	15	1%
TOTAL	**1,379**	**100%**

Sources: Thurston Regional Planning Council; Washington Department of Employment Security

The three largest employment sectors in the area are resource-based jobs (37 percent), government (35 percent), and retail trade, which accounts for 17 percent of total employment. Government employment is largely accounted for by the local school districts; retail trade is most concentrated in the Grand Mound UGA, and to a lesser extent in the town core of Rochester; while resource-based employment (including agriculture, forestry and mining) is mostly located outside of the Study Area in the rural areas of the County, except for the construction job component of resource-based employment, which is mostly concentrated within the Study Area.

The vast majority of residents work outside the Study Area. This is evidenced from "journey to work" data recorded in the 1990 Census, which indicates that 52 percent of the employed residents of the Study Area work outside the county. The bulk of employed residents in the GSA typically drive to work in Lewis, Grays Harbor, and Pierce counties. The remaining 48 percent of employed persons work within Thurston County, but predominantly outside the Study Area (i.e., north county).

Projections of demand for employment and land use absorption by land use type have been developed for the Grand Mound UGA. These estimates are based on an economic analysis undertaken as a part of the Grand Mound UGA rezoning and utility expansion planning process *(Chase Economics,* 1995). A series of growth scenarios were developed which emphasized low, medium and high growth potential within the UGA. The study assessed the economic development growth potential of the area and concluded:

> *Grand Mound has enough land to accommodate twenty-five years' growth under each of the growth scenarios. There is no need to expand the urban growth boundary. At the beginning of the forecast period (1995), more than three-fifths of all the acreage within the Grand Mound UGA is vacant and underdeveloped. By 2020, the absorption rates of vacant and underdeveloped land vary from 51 percent for the low growth scenario, 60 percent for the medium growth scenario, and 72 percent for the high growth scenario.*

The data suggest several important factors which should be considered in planning for the allocation of future non-residential development within the GSA. Several factors, in particular, provide the greatest constraints to the allocation of commercial development within the Study Area. First is the Western Hearings Board decision *(in Skagit County, et al)* that commercial development in rural areas must be resource-related or serve only the surrounding rural land uses (e.g., uses which are intended to serve primarily highway-oriented, pass-through traffic should be prohibited, while uses intended to serve the local population, such as neighborhood convenience stores, should be allowed). Second is the Grand Mound economic analysis, which indicates that the supply of commercial and industrial land within the UGA can more than accommodate the expected 20-year demand for those types of land uses. Indeed, it is the intent of the County to stimulate economic development in South Thurston County by making utility improvements and promoting commercial/industrial development within the Grand Mound UGA. To designate a significant area outside the UGA for additional commercial growth would dilute the attractiveness of the UGA's market; potentially slow the pace of development within the UGA; and promote urban types of development outside of the UGA, where lower levels of public facilities and services prevail. Thirdly, the Washington DOT strongly discourages strip commercial development along state routes in rural areas (e.g., Highway 12). This is largely due to increased traffic and turning movements, which cause more accidents; increased congestion at rural intersections; and lower of levels of service and speeds along routes that are designed to move larger volumes of traffic efficiently through an area, but which are not intended to become local commercial streets. These factors are furthered by Thurston County rural land use policies in the Comprehensive Plan, which promote urban commercial uses in "urban areas, the rural towns, or in community growth areas around unincorporated centers such as Rochester-Grand Mound." The net effect of these policies is to discourage the development of strip commercial developments along rural highway frontage, but to encourage the clustering of commercial uses contiguous with existing centers, such as downtown Rochester.

Land Availability

Within the current boundaries of the Study Area there are more than 5,500 gross acres of vacant developable land. This number includes wetlands and other critical area designations, but excludes public rights-of-way.

ALTERNATIVE LAND USE SCENARIOS

Four different land use scenarios were developed and presented to the public at the *Alternative Futures* workshop held in November 1995. A brief description of the alternatives follows. A summary matrix of

the alternatives and their major highlights, including consistency with the GMA, is shown in Table 7. The alternative land use maps are located in the Rochester Subarea Plan Draft EIS.

Alternative #1 (Medium Density Residential)

This alternative assumes that the existing Medium Density Residential (1-6/1) "mixed-use," split-density zoning recommended in the 1978 Rochester Subarea Plan would remain in effect throughout the entire Study Area. This designation allows commercial/industrial uses subject to site plan and Hearing Examiner approval. Residential uses could be developed up to a maximum of 6 units per acre (with public sewer/water). However, lacking those facilities, current county health department regulations allow a maximum of 2 units per acre. The population capacity at buildout under this scenario is approximately 19,000 to 20,000.

Alternative #2 (Low Density Residential)

This alternative would downzone most of the Study Area to Rural Residential (RR 1/1). This would allow a maximum of 1 dwelling unit per acre over most of the area. This approach would maintain the basic existing allowable residential densities in the GSA. However, specific zoning would be used for other uses, including commercial/industrial activities. This scenario would totally eliminate the MDR (1-6/1) zoning, and designate SR-12 as a major commercial corridor to allow the most amount of commercial development under any alternative. The population capacity at buildout under this scenario is approximately 17,000 to 18,000.

Alternative #3 (Rural Emphasis)

This scenario proposed downzoning to approximate the existing parcel size pattern with commensurate density zoning (i.e., 5-acre or larger parcels would be designated as Rural Residential/Resource (1/5) allowing 1 unit per 5 acres; while smaller parcels would be designated as Rural Residential (1/1) allowing 1 unit per acre). This alternative would maintain a small portion of the existing MDR zoning around the town core of Rochester with a minimum amount of property designated for commercial/industrial use — assuming the majority of those activities would locate within the Grand Mound UGA, where public services and facilities could be better provided. The population capacity at buildout under this alternative is approximately 10,000 to 11,000.

Table 7: Summary of Land Use Alternatives — Rochester Growth Study Area

	ALTERNATIVE 1: No Action	ALTERNATIVE 2: Low Density Residential	ALTERNATIVE 3: Rural Emphasis	ALTERNATIVE 4: Strict Growth Management Act Scenario
GENERAL APPROACH	• Maintain Existing Mixed Use Zoning	• Downzone to 1 unit/1 acre base residential zoning • Specific Zoning for all uses and all areas	• "Freeze" Existing Parcel Size Pattern and Downzone to approximate allowable density with parcel size (1:1 maximum and 1:5 minimum density) • Designate existing farms as Agriculture zones • Maintain Mixed Use Zoning for Rochester Town Core/Specific Zoning for rest of the Study Area	• Downzone to 1 unit/5 acres base residential zoning • Maintain Mixed Use Zoning (1-6 units/acre) in area served by Rochester Water Association • Allow for expansion of Grand Mound UGA by designating surrounding Urban Reserve area • Specific Zoning for other uses
SIGNIFICANT FEATURES	• Least consistent with GMA • Least predictable to determine future growth • Likely to create the greatest amount of land use conflicts • Offers the greatest flexibility to property owners	• Likely inconsistent with GMA – contributes to "urban sprawl" • Best promotes future growth of the Study Area • Creates the greatest amount of traffic impacts • Requires the greatest fiscal impact to improve public services	• More consistent with GMA – attempts to limit "urban sprawl" • Best preserves rural character of the Study Area • Limits the growth potential of the Study Area • Reduces the potential fiscal impact of additional growth in the Study Area	• Most consistent and in compliance with GMA • Best differentiates between urban and rural areas • Offers greatest potential for expansion of urban growth around Grand Mound • Focuses growth (land use impacts), fiscal impacts and improved public services into the most heavily populated sections of the Study Area
TOTAL DAILY VEHICLE TRIPS AT BUILDOUT (Daily Traffic)	4,515	6,371	3,950	2,962
RESIDENTIAL DENSITIES	• Medium Density Residential (1-6 units/acre) throughout Study Area • 9,233 acres	• 1 unit/acre base residential zoning throughout most of Study Area • 7,275 acres @ 1:1 density • No Clustering Option (i.e., no density bonus allowed)	• Mix of 1 unit/acre and 1 unit/5 acre zoning • 3,339 acres @ 1:1 density • 3,558 acres @ 1:5 density • Rural Clustering Option allowed in the 1:5 zone (i.e., 35% density bonus) • Small area of Mixed Use Zoning for Rochester Town Core – 307 acres	• 1 unit/5 acres base residential zoning with clustering option – 5,817 acres • Urban reserve Area allows 1 unit/5 acres with a "conversion plan" requirement to achieve ultimate density of 3-6 units/acre • Urban Reserve Area around the UGA amounts to 936 acres • Larger area of Mixed Use Zoning for Rochester Town – 1,621 acres
POPULATION CAPACITY AT BUILDOUT	19,000 - 20,000	17,000 - 18,000	10,000 - 11,000	13,000 - 14,000

	ALTERNATIVE 1: No Action	ALTERNATIVE 2: Low Density Residential	ALTERNATIVE 3: Rural Emphasis	ALTERNATIVE 4: Strict Growth Management Act Scenario
COMMERCIAL USES	• All uses, subject to Hearing Examiner hearing and approval	• Specific Zoning • Would allow Maximum Commercial Development outside of UGA – 499 acres • Major Commercial Corridor along Hwy 12 between Rochester and Grand Mound and major commercial nodes along 183rd	• Specific Zoning • Would allow Minor expansion of Commercial Development outside of UGA – 131 acres • No Commercial Corridor along Hwy 12 between Rochester and Grand Mound and minor expansion of commercial nodes along 183rd	• Specific Zoning • Designate Existing Commercial Uses only – 93 acres • Would allow No Further expansion of Commercial Development outside of UGA, except within the Rochester Town Core area, subject to Hearing Examiner hearing and approval
INDUSTRIAL USES	• All uses, subject to Hearing Examiner hearing and approval	• All existing gravel mining areas and other existing industrial uses within the Mixed Use Zone would be designated for industrial use • 185 acres	• All existing gravel mining areas and other existing industrial uses, except for those within the Rochester Town Core Mixed Use Zone, would be designated for industrial use • 180 acres	• Recognizes existing industrial uses but would only allow future industrial expansion within the Grand Mound UGA or in the Rochester Town Core Mixed Use Zone, subject to Hearing Examiner hearing and approval • 17 acres
AGRICULTURE	• Mixed Use Zoning/No specific zoning for agriculture	• Designate only existing agricultural processing activities for agriculture zoning (e.g., Briarwood, Weyerhauser, fish farms, etc.)plus the area immediately east of I-5 (cut-over forest land and bluff area)proposed for release from the Study Area • 845 acres	• Designate existing agricultural use areas (e.g., Working farms and grazing pastures, X-mas tree farms/lots,etc.) and agricultural processing activities for agriculture zoning (e.g., Briarwood, Weyerhauser, fish farms, etc.) • 1,287 acres	• Designate only existing agricultural processing activities for agriculture zoning (e.g., Briarwood, Weyerhauser, fish farms, etc.) • 320 acres

Alternative #4 (Strict GMA Scenario)

This alternative assumed the strictest interpretation of the GMA and WWGMHB decisions regarding land use densities. Under this approach, 1 unit per acre base zoning is prohibited. Instead, rural areas are downzoned to Rural Residential/Resource (1/5), while "higher density" areas (i.e., indicative of 1/1 development patterns) are kept in the existing MDR (1-6/1) split-density zone. In addition, an "Urban Reserve" concept is proposed to allow for the eventual expansion of public sewer/water facilities beyond the present Grand Mound UGA boundaries. This designation would downzone those areas to RR/R (1-5) and require "conversion plans" for future platting activities on those parcels. Population capacity under this alternative is approximately 13,000 to 14,000.

FINAL LAND USE PLAN

The final land use plan is not identical to any of the four alternatives which were presented to the public, but evolved from information garnered from the public workshops, consultations with the Citizen's Committee, property owners, and from Thurston County staff. The plan, however, is most consistent with Alternative #3 (Rural Emphasis). This is the alternative that received the greatest support from the public workshop participants. They encouraged a vision of Rochester which retained its rural character, while strengthening the downtown core. The results of the alternatives evaluation completed at the workshops is included in the Appendix. The overall goals of the Subarea Plan were guided by the public participation process as follows:

- Preservation of the rural character, agricultural uses, and sensitive environments as keys to quality of life, and economic diversity as well as environmental and human health.

- Support of the economic health of the Subarea by designating areas for adequate future residential and commercial expansion and support continuation of agricultural pursuits to promote economic diversity.

The supporting guidelines used in developing the land use map are contained in the Appendix.

The final land use plan amendment for the Rochester Growth Study Area is shown on Figure 8. The plan forecasts a net growth of 4,419 persons requiring an additional 1,788 housing units from 1995 to 2020. These projections are based on a predominate development pattern of 1 dwelling unit per acre. Based on these forecasts, the public vision to retain rural character, public input from property owners, consistency with the Thurston County Comprehensive Plan, and the constraints applied by the GMA and the Hearings Board, the final plan allocates land area for future development, as shown in Table 8.

The methodology used to determine the availability of land for residential and commercial development within the GSA is contained in the Appendix.

Table 8
Rochester Subarea Land Use Plan
Land Use Allocations

Land Use	Existing Developed Lands		Existing Vacant Lands		Total Growth Study Area		Net Potential Residential Units
	Acres	% of Total	Acres	% of Total	Acres	% of Total	
Residential							
Low Density (1:1)	555	24	2,048	36	2,820	32	1,678
Med. Density (1-6:1)	294	13	969	17	1,422	16	804-1,812[2]
Rural Resource (1:5)	806	35	2,527	44	3,643	42	292[3]
Commercial	280	12	153	3	434	5	N/A
Industrial	14	1	0	0	20	>1	N/A
Agriculture	195	8.5	0	0	195	2	N/A
Public	148	6.5	0	0	148	2	N/A
TOTALS	2,292	100	5,697	100	7,991-8,682[1]	100	2,774-3,782[2]
Areas Removed from GSA							
DNR Public Preserve	0		294		0		0
I-5 Southeast Quadrant	0		641		0		0

[1] Total differences in GSA area are accounted for by public rights-of-way and unreported tax parcel numbers.
[2] Potential Residential Units for MDR (1-6:1) calculated at both a minimum of 1 unit/acre and a maximum of 2 units/acre.
[3] Potential new dwelling units in the RRR 1/5 zone are underestimated due to pre-existing (platted) 1-acre lots in this zone and the potential for bonus units allowed under rural clustering provisions on unplatted parcels.

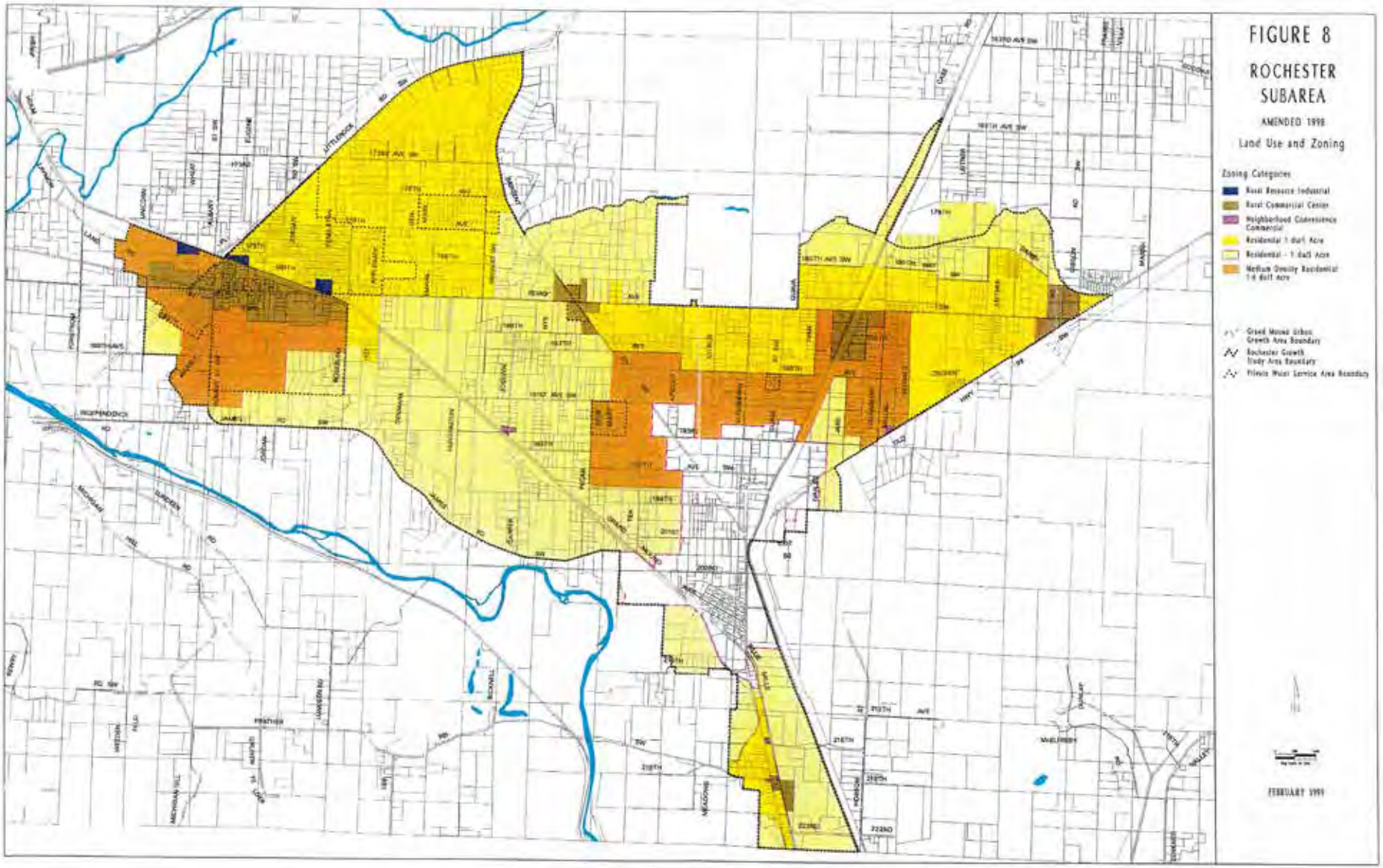


FIGURE 8
ROCHESTER
SUBAREA
AMENDED 1998
Land Use and Zoning
Zoning Categories
Rural Resource Industrial
Rural Commercial Center
Neighborhood Convenience Commercial
Residential 1 dwl/ Acre
Residential - 1 dwl/ Acre
Medium Density Residential 1-6 dwl/ Acre
Grand Mound Urban Growth Area Boundary
Rochester Growth Study Area Boundary
Private Water Service Area Boundary
FEBRUARY 1999

Urban and Rural Lands

Future Urban Service Area (FUSA)

In addition to the Grand Mound UGA, a new overlay district, termed a Future Urban Service Area (FUSA) is proposed for portions of the Study Area. The purpose of the FUSA designation is to indicate areas expected to develop to urban levels beyond the initial 20-year planning period and to begin to "pre-plan" for the eventual delivery of public facilities (especially public sewer and/or water) to these areas. The FUSA designation would serve to guide future land use development and capital facility efforts into the most appropriate areas. Two areas are proposed for the FUSA designation in this plan:

- the area in and around the town core of Rochester; and
- the area immediately adjacent to and surrounding the northern portions of the Grand Mound UGA.

Both of these areas exhibit some of the highest concentrations of existing development within the Study Area, offer the best potential for future non-residential or higher density residential development, are least impacted by environmentally sensitive areas, and would be primary areas for the most efficient delivery of future public sewer and water lines should water quality degradation occur in the aquifer. Existing plumes of excessive nitrate levels have been found in portions of the groundwater aquifer immediately adjacent to the northern boundary of the Grand Mound UGA. The proposed FUSA designation is shown on Figure 9.

Within the FUSA, the following implementation methods are recommended:

1. Establish split-density zoning (MDR) that allows low-density development (e.g., one unit per acre) without municipal utilities and urban densities (e.g., three to six units per acre) with those utilities.

2. Permit development at lower density provided that:

    a. the potential for long-term urban development on the site is maintained;

    b. the eventual connection to municipal sewer and water is facilitated;

    c. it is demonstrated that the project will eventually fit into the are as infrastructure framework (e.g., roads, utilities, etc.); and

    d. no signifiant public health or environmental impacts.

3. Permit development of urban densities provided that:

    a. the site is included within the boundaries of an Urban Growth Area;

    b. utilities, utility connections, roadway improvements and other required infrastructure is provided at owner expense; and

    c. the County's other development standards are met.

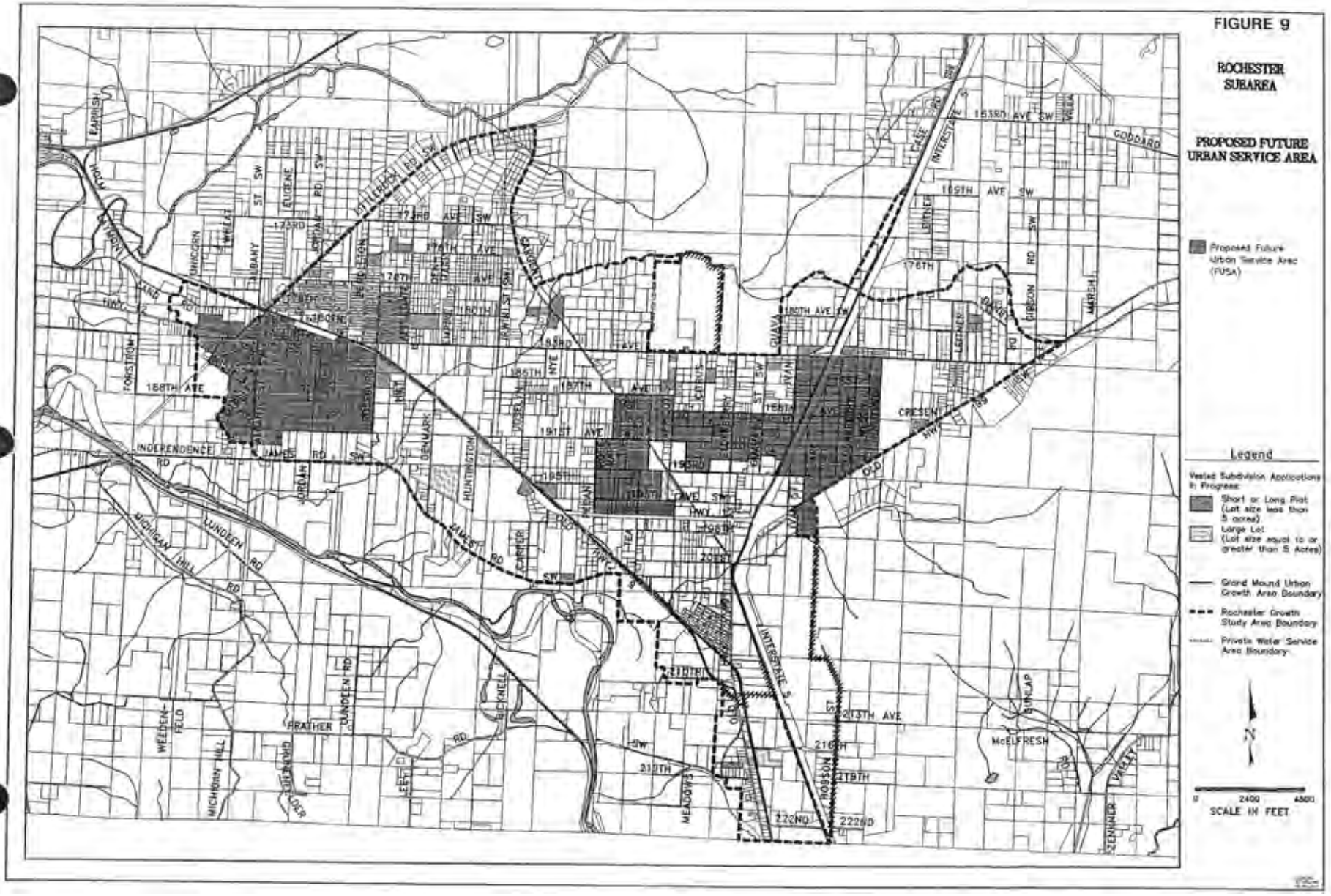


FIGURE 9
ROCHESTER SUBAREA
PROPOSED FUTURE URBAN SERVICE AREA
Proposed Future Urban Service Area (FUSA)
Legend
Vested Subdivision Applications In Progress:
Short or Long Plat (Lot size less than 5 acres)
Large Lot (Lot size equal to or greater than 5 Acres)
Grand Mound Urban Growth Area Boundary
Rochester Growth Study Area Boundary
Private Water Service Area Boundary
N
0
2400
4800
SCALE IN FEET
INTERSTATE 5
188TH AVE
INDEPENDENCE RD
LUNDEEN RD
MICHIGAN HILL RD
ZAMBERT RD
JAMES RD SW
193RD AVE
191ST AVE
195TH AVE
198TH AVE
210TH
213TH AVE
216TH
218TH
222ND
222ND
GOBBARD
183RD AVE SW
189TH AVE SW
180TH AVE SW
176TH
CRESENT
OLD
McELFRESH
FRATHER
WEIDEN-FELD
MEADOWS
SEENNER CREST

4. Adopt public service and development standards appropriate for short-term low density development that preserves the ability for long-term urban development (e.g., conversion plan requirements).

The remaining GSA boundary is recommended to assume mostly rural land use densities and intensities of use in order to achieve the vision of rural character perceived by the public, and to preserve the sensitive aquifer recharge characteristics of the area. The GSA should be renamed the "Rochester Subarea" to reduce potential conflict with GMA language regarding "growth areas." The Rochester Subarea designation would still preserve future options regarding land uses and delivery of public facilities and services — especially public sewer and water — should actual population growth *exceed* the projected figures, or if ground water quality degradation occurs in such a way as to constitute a health hazard.

Two major boundary changes are proposed for the Subarea:

- ***DNR Public Preserve***. The area in section 35 between 183rd Avenue and Scatter Creek is proposed for removal from the Subarea. This area comprises approximately 294 acres and is owned by the State of Washington, Department of Natural Resources, as a part of the Scatter Creek Wildlife Area. The plan proposes a Public Preserves zoning designation for this area consistent with the provisions of Chapter 20.08E TCC.

- ***I-5 Southeast Quadrant***. The area in Sections 12, 13, and 24 immediately east of the Grand Mound UGA and I-5, and from Old Highway 99 south to the Lewis County line is proposed for removal from the Subarea. This area comprises approximately 641 acres and is characterized by significant wetlands, hydric soils, and very poor transportation access. The area consists of largely cut-over forest land and small scale agriculture uses at the present time, and is not deemed suitable for urban growth at the present time. The plan proposes a Rural Residential/Resource (1/5) zoning designation for this area consistent with the provisions of Chapter 20.09A TCC.

The removal of these areas from the Subarea effectively reduces its size from 9,618 acres to approximately 8,682 acres.

There are also several changes to the Grand Mound UGA boundary, which are reflected in the Grand Mound UGA plan amendment.

Residential

Residential land will continue to generate the greatest demand for land in the future. According to the projections prepared by the TRPC, at a development pace consistent with past trends, as much as 2,235 acres of additional land could be consumed for residential development by the year 2020 to accommodate the projected increase of 4,419 new persons.

The proposed plan allocates approximately 3,017 vacant acres for new residential development within the Subarea at 1 unit/acre or higher density. Collectively, the low density residential (1 du/acre) and medium density residential (1-6 du/acre) designated lands account for 53 percent of all vacant land within the Subarea under the final plan.

The plan promotes a compact development pattern around the communities of Grand Mound and Rochester, with the intervening portions of the Subarea (at 1 unit/5 acres) acting as a rural, open space

buffer and transition area for small farms and the environmentally sensitive areas along Scatter Creek. The rural resource residential designation (1 du/5 acres) would account for approximately 44 percent of the total vacant land within the Subarea under the plan.

In total, the subarea plan could accommodate between 2,774 to 3,782 new residential units based on a range of densities from a minimum of 1 unit per 5 acres to a maximum of 2 units per acre (without public sewers) and 6 units per acre (with public sewers).

Low Density Residential (1:1)

A total of more than 2,820 acres are designated as low density residential (1:1) in the final plan. This accounts for 32 percent of the total Subarea. These are concentrated in three main areas: 1) north and west of downtown Rochester between 183rd Avenue and 173rd Avenue, extending to Irwin Road; 2) in the area along the south side of 183rd Avenue from the intersection of Sargent Road eastward to the I-5 overpass; and 3) the area wedged between 183rd Avenue and Old Highway 99 east of I-5. In all cases, these represent areas which exhibit the highest concentrations of existing development (averaging 1:1 density), areas lacking in environmentally sensitive lands, areas with a predominance of adjacent 1:1 development, areas corresponding to excellent arterial road access and/or potential for compact community water service expansion.

The zoning use designation for these areas is Rural Residential (1/1). This corresponds to the requirements of Chapter 20.11 TCC (RR 1/1).

Medium Density Residential (1-6:1)

A total of 1,422 acres is designated as MDR (1-6:1). This accounts for 16 percent of the total Subarea. The plan also proposes that the definition for this zoning category be amended to *exclude* commercial and industrial uses (other than the home occupations currently allowed). This designation is recommended for two main areas: 1) the area surrounding the downtown core of Rochester (which is proposed for commercial designation), which corresponds to the existing service area of the Rochester Water Association; and 2) the area immediately adjacent to the Grand Mound UGA, extending from SR-12 north in a band that surrounds the UGA boundary to include portions of the Subarea all the way to Old Highway 99.

These represent areas which also exhibit the highest concentrations of existing development, offer pockets of infill development opportunities, allow opportunity for the expansion of the UGA at a future date when sewer and water are available, and reflect areas of future higher density development potential if sewer and water are extended beyond the present UGA. The split-density zoning (i.e., offering a range of densities based on the availability of public utilities) becomes a more meaningful tool and incentive for development, when used in conjunction with the FUSA, where public utilities can be specifically targeted for future development.

The applicable zoning designation applies to Chapter 20.17 TCC as proposed for amendment.

Rural Resource Residential (1:5)

A total of 3,643 acres are designated as rural resource residential (1:5) in the Subarea. This accounts for 42 percent of the total Subarea. This designation is recommended for areas experiencing the lowest existing concentrations of development, and is also characterized by a predominance of existing parcels at least 5 acres in size or larger, including most of the area along the Scatter Creek corridor; in the open

rural (mixed agriculture, vacant and residential) areas between the core areas of development in Rochester and Grand Mound; in areas particularly characterized by environmentally sensitive lands; and along the James Road boundary of the GSA as a buffer from the adjacent long-term agriculture resource lands and dairying operations.

This designation is recommended for the areas experiencing the least existing development pressure, are not located adjacent to existing urban intensity development, and which also exhibit predominantly rural character. These areas may also serve as a future reserve for higher density development, when it can be shown that population growth and housing demand warrant. The protection of the Scatter Creek groundwater aquifer from on-site septic system overloading and potential contamination is also a prime consideration for the use of this zone.

The zoning for these areas is Rural Residential/Resource (1/5). This corresponds to the requirements of Chapter 20.09A TCC. Residential density bonus provisions (from 35% to 65%) would be allowed under this designation (for parcels 7.5 acres or larger) consistent with the requirements of the Planned Rural Residential Development (PRRD) provisions (Chapter 20.30A TCC).

Commercial

Approximately 434 acres are designated as neighborhood convenience or rural commercial center land on the plan, of which approximately 153 acres are presently vacant. This accounts for 5 percent of the total Subarea. These areas are characterized by excellent access from county arterial or collector roadways; they are located within or adjacent to existing commercial nodes and adjacent to the downtown core of Rochester. Commercial uses are limited to these areas in order to reduce the potential for strip development and still allow for rural-related commercial development to serve local needs. The Grand Mound UGA has designated 178 acres of commercial development, and is intended to serve as the primary commercial center of the whole Subarea.

The allocation of commercial lands in the proposed plan would effectively more than double the amount of land currently devoted to commercial development within the Subarea (outside the UGA). Commercial land demand projections for the UGA indicate that the supply of commercial land within the UGA alone (178 net acres) is more than adequate to meet the demand for the next 20 years (*Chase Economics*, 1995).

The zoning designation for these areas are Neighborhood Convenience (NC) or Rural Commercial Center (RCC). This reflects allowable residential densities of 1 unit per acre under the current RCC designation. (Resolution 11866, 12/21/98)

Industrial

A total of 20 acres are designated as rural resource industrial land. The industrial designation is limited to existing sites and industrial uses, and accounts for less than 1 percent of the Subarea. The 20-acre industrial designation proposed in this plan addresses existing resource and non-resource-related industrial uses presently within the Subarea. The designated parcels are all located along the railroad tracks adjacent to downtown Rochester. The proposed zoning for these areas is Rural Resource Industrial.

The Grand Mound UGA contains a total of 362 net acres of land committed to industrial uses. The intent of the UGA plan is to promote the UGA as the primary location for non-resource-related industrial uses within the area in order to better provide the sewer and water needs of these types of users. Industrial uses outside the UGA are intended to be resource-related (i.e., mining-, forestry- or agricultural-related). The

majority of present industrial uses in the area fit this profile (e.g., gravel mining, aquaculture, fertilizer production, poultry production, etc.) and are compatible with either a Rural Residential land use designation or a voluntary Agriculture designation. (Resolution 11866, 12/21/98)

Gravel Mining

In July, 1992 the county enacted a year long moratorium on new gravel mines due to concerns about the effects that gravel mining can have on groundwater. After studying the issue, the county issued a new mineral extraction code. The new code provides for the use of best management practices and strengthened water quality protection standards for mines to follow when carrying out extraction activities in aquifer sensitive areas. Under the proposed Subarea Plan, gravel mining would still be allowed subject to the provisions of the extraction code and special use permits.

Agriculture

There are no designations of long-term resource lands proposed for the Subarea in this plan. The majority of existing dairy farms, tree farms and turf farms within the Subarea are small-scale in nature. There are also a number of horse lots, hobby farms, and other agricultural uses of property that are not considered as the prime income source for the property owners. All of these uses are consistent with the provisions of the rural resource residential, low density residential, and medium density residential land use categories. The existing agricultural processing activities in the Subarea comprise approximately 195 acres and represent existing agricultural uses exclusively. In total, they would account for only 2 percent of the total Subarea.

The more intensive agricultural processing activities (fertilizer production, poultry production, aquaculture, etc.) are consistent with the Rural Residential/Resource (1:5) zoning designation, or with the voluntary Agriculture District (AD) designation offered by the existing county zoning ordinance (Chapter 20.08 TCC).

Public

Public land uses in the Subarea include Rochester High School and Grand Mound Elementary, owned by the Rochester School District #401; the public cemetery on 183rd Avenue; the County-owned garage and gravel pit; and the electrical substation on 183rd and Sargent Road.

There is no "public" zoning designation in the current code (with the exception of that intended to designate conservation lands — Public Preserves (Chapter 20.08E TCC). However, the public-designated areas in the proposed plan are generally consistent with either the Rural Residential/Resource (1/5) or Rural Residential (1/1) zoning designations (Chapter's 20.09A and 20.11, respectively) in which they are located.

GROUNDWATER QUALITY, FUTURE SEWER AND WATER IMPROVEMENTS

Existing water quality concerns in the Chehalis River and Department of Ecology restrictions on effluent discharge currently preclude development of public sewer systems outside of the Grand Mound UGA. However, future expansion of the proposed Grand Mound UGA utility improvements should be

considered for the areas designated in the proposed plan as a Future Urban Service Area (FUSA). The timing of these improvements should be tied to the subsequent completion of the sanitary sewer and potable water systems within the UGA, as described in the *Grand Mound Service Area Water and Wastewater Comprehensive Plans* (Barrett Consulting Group, 1995).

Implementation of the *South Thurston County Aquifer Protection Strategy* (Thurston County, 1993) should continue in order to carefully monitor groundwater conditions and prevent further contamination. Abatement of groundwater contamination sources (both within and outside of the Subarea) may lessen the future need to construct new and costly public sewer and water systems solely in response to public health concerns.

Continued reliance on the *Thurston County Critical Areas Ordinance* (Chapter 17.15, Part 500, TCC) regarding development within critical aquifer recharge areas should also be maintained to limit densities and intensities of use commensurate with adequate design standards to protect the groundwater resource.

Finally, expansion and/or consolidation of the *Rochester Water Association* service area should be encouraged based on an approved Comprehensive Water System Plan for the utility. Potential future wellfield contamination concerns in the Rochester area (e.g., in the 1 unit per acre or higher density zones) can be reduced through wellfield consolidations and enhanced community water systems.

The proposed plan would generate, under a buildout scenario, a total residential groundwater demand of approximately 0.87 million gallons per day (based on a total of 4,354 dwelling units at 200 gpd in 2020). This amounts to less than 1,000 acre/feet per year of increased domestic water demand. This figure does not include the existing water appropriations for agriculture and aquaculture activities within the Subarea, or the demand figures for the Grand Mound UGA. However, the current known status of the groundwater resource appears to indicate a more than adequate supply to provide this level of service.

APPENDIX

RESULTS OF PUBLIC WORKSHOPS AND COMMUNITY PARTICIPATION

An extensive public participation program was used in order to reach consensus on the future land use plan for the Subarea. Components of the program included:

- ***Four Major Public Workshops:***

1.	Project Kick-Off Workshop	August 1995
2.	Visioning Workshop	September 1995
3.	Alternative Land Use Scenarios Workshop	November 1995
4.	Preliminary Plan Workshop	January 1996

- ***Public Open Houses*** — Five montly open-houses for drop-in questions/answers at the Rochester Community Center (ROOF).

- ***GSA Citizens' Committee*** — Appointment of a nine-member advisory group to ensure adequate public input and consideration of local issues and concerns in the planning process.

- ***Mailing List*** — A mailing list of over 120 local residents and property owners maintained to notice the public workshops and open houses.

- ***Media Relations*** — Press releases regarding announcement of workshops, open houses, interviews and feature articles, highlighting the process and major issues, were facilitated through the four local newspapers, including *The Olympian, The Chronicle, Lewis County News,* and the *Independent Sun News.*

- ***Public Hearings*** — Both the County Planning Commission and Board of County Commissioners held public hearings on the proposed plan in the local community.

Annotated Workshop Results

Attendance was fairly consistent, ranging from 60 to over 100 participants at each workshop. In each case, small group dynamics was the approach chosen. Participants were broken into small groups ranging from 4 to 6 persons per group to facilitate involvement and consensus on issues.

Workshop No. 2: Visioning

This workshop included a visioning exercise and questionnaire regarding the participants views on the major land use issues. These discussions helped to determine the goals of the plan.

Participants responded that they valued:

- Small town atmosphere and surrounding rural character
- Natural open spaces (i.e., prairie, woods)
- Affordable housing and lower costs of living

Participants identified the following most significant problems:

- Land use conflicts caused by existing mixed use zoning
- Potential groundwater aquifer contamination from too much development
- Lack of public services (police, fire, parks, library)

Participants wanted:

- A more specific zoning approach to separate and buffer residential, commercial, and industrial uses.
- Improvements to upgrade the local quality of life, such as increased police, parks, and cultural activities.
- A higher quality downtown Rochester commercial area.
- Traffic improvements to reduce congestion along SR-12.

Participants hope that the plan will:

- Control growth to maintain the existing rural character and preserve Rochester's identity and low density residential housing.
- Protect the groundwater resources.
- Accommodate appropriate sites for commercial development to expand the tax base.

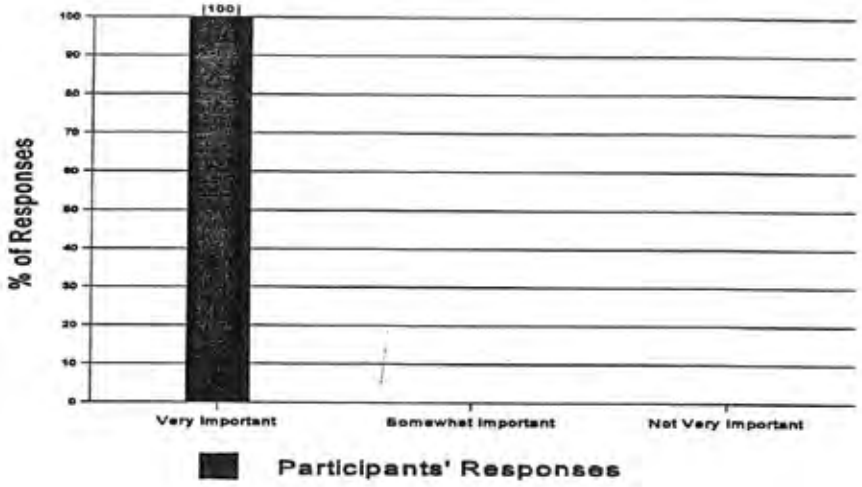
The general tenor of responses indicates a strong preference to implement a more traditional zoning approach to separate district land uses. There was also a strong preference to maintain the low density character of the area. However, there were differing assessments on how to manage the residential densities associated with maintaining the existing atmosphere of the area. Some respondents favored maintaining the existing 1-du/acre residential density throughout the Study Area. On the other hand, there was strong sentiment against a "build-out" scenario based on this approach. Resolving these apparently conflicting viewpoints was a major challenge in the planning process. Indeed, the general goal of keeping Rochester a "small town" may conflict with growth projections.

At the same time, protecting the rural atmosphere by down-zoning portions of the Study Area will emerge as an important issue when local property owners with developable land participate in the project.

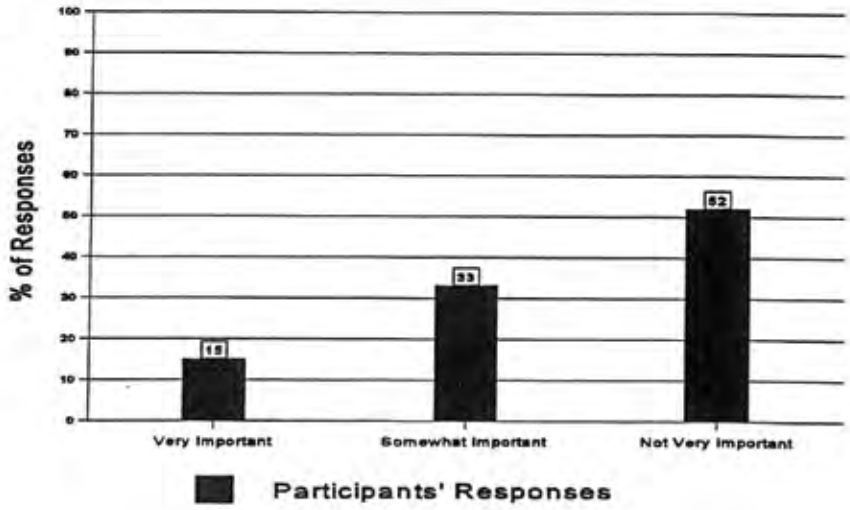
The following six questions/answers from the public surveys indicate the overall options expressed by the respondents regarding the major themes of development within the Study Area.

There were a total of 55 surveys returned from the second workshop. The following bar graphs indicate the percentage of total responses.

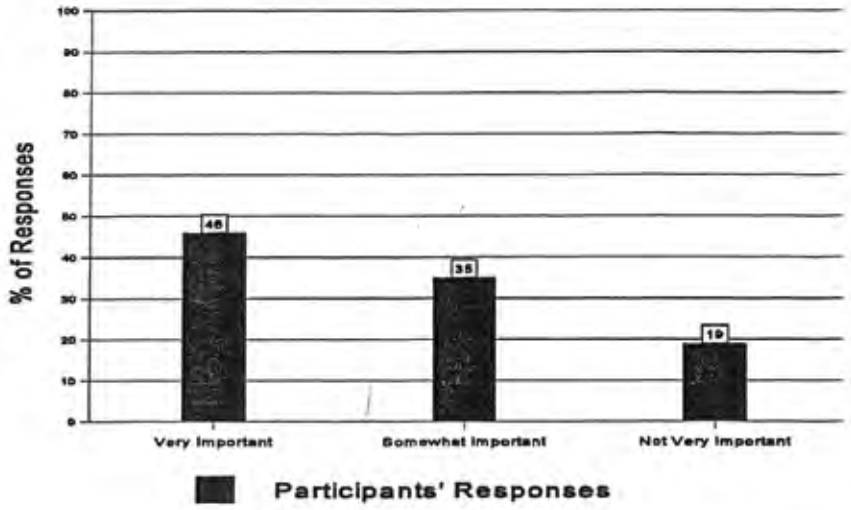
1. *Maintain a safe and adequate groundwater supply.*



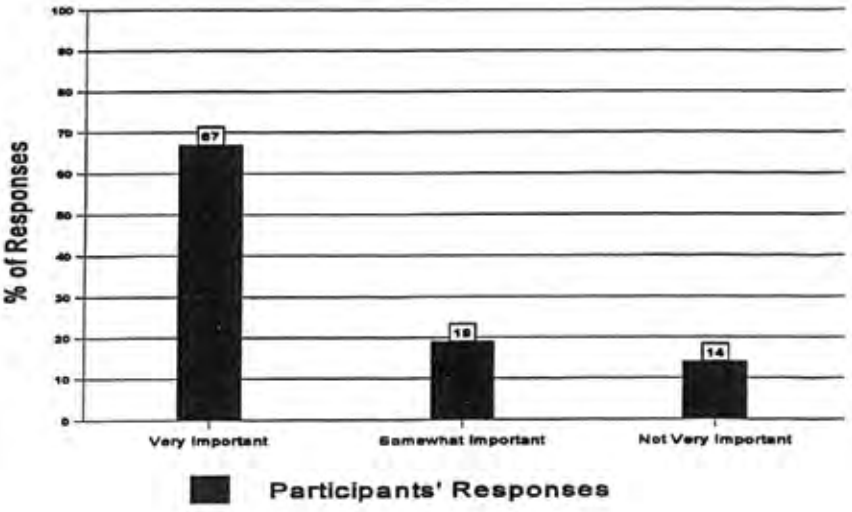
2. *Increase job/employment opportunities within the Rochester area.*



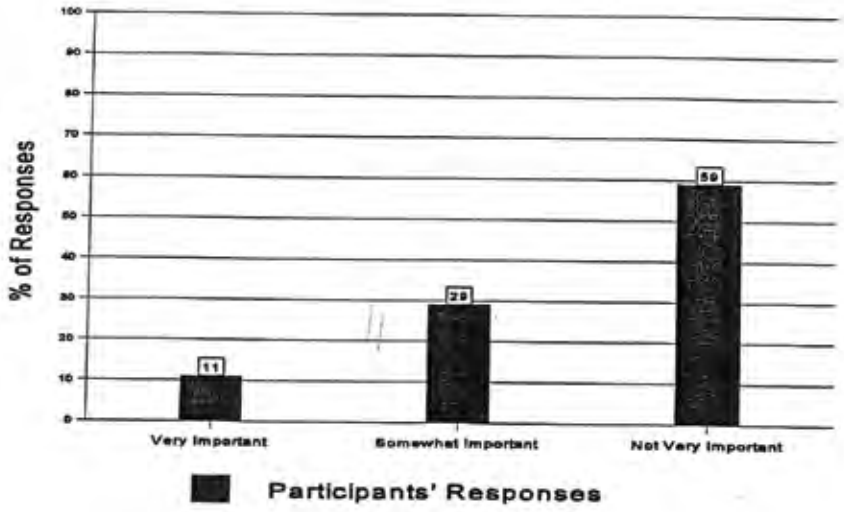
3. ***Protect areas for agricultural use within the Study Area.***



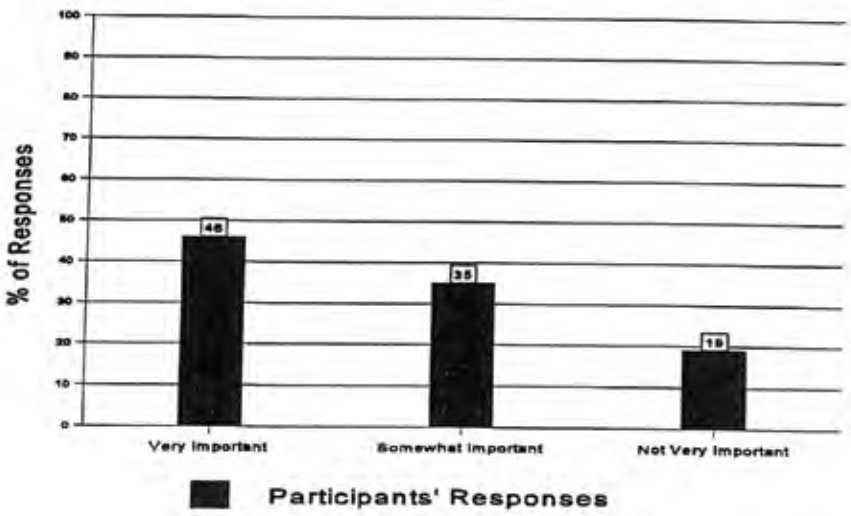
4. ***Maintain the rural character of the area (e.g., very low density housing, agriculture, open space, limited commercial and industrial activities).***



5. ***Promote a greater diversification of and more intensive use of the area (e.g., higher density housing, public sewer and water systems, more commerical/light industrial activities).***



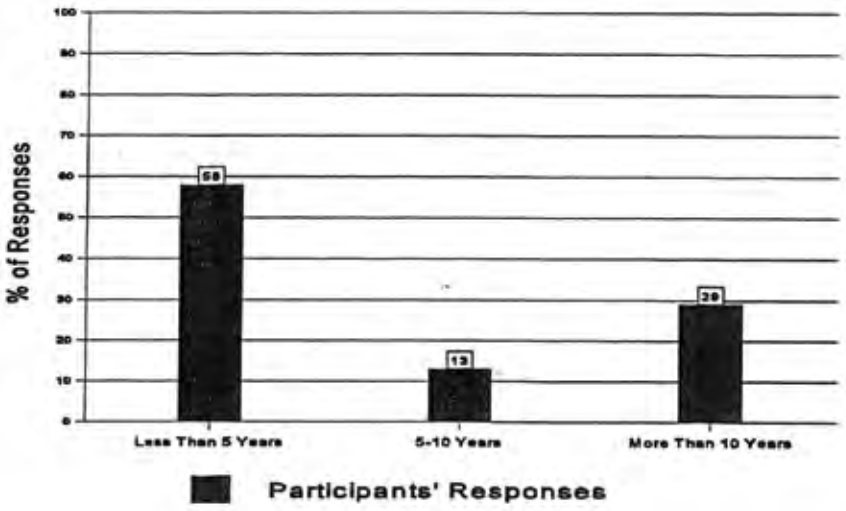
6. ***Concentrate new non-residential land uses in the more developed areas (i.e., downtown Rochester and Grand Mound) whenever possible.***



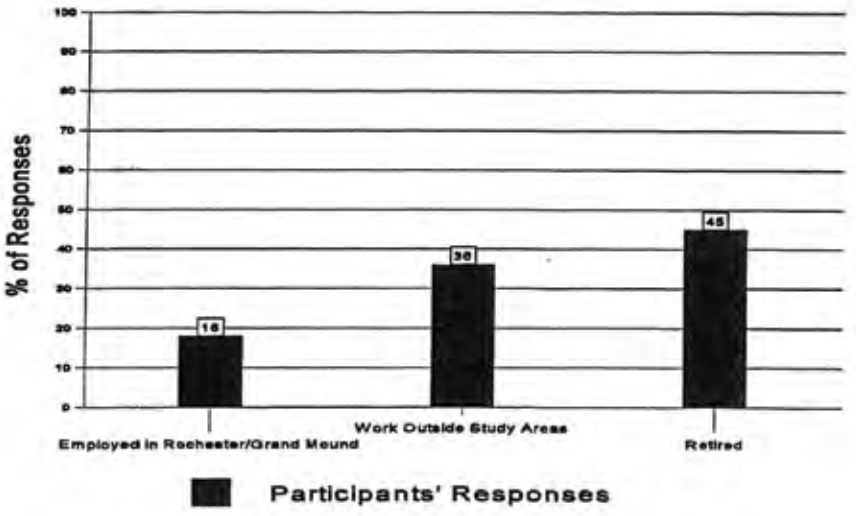
Characterization of the Respondents

The following two questions refer to the characterization of the respondents to the survey instruments regarding goals for the Rochester Plan.

1. ***How long have you lived in the Rochester area?***



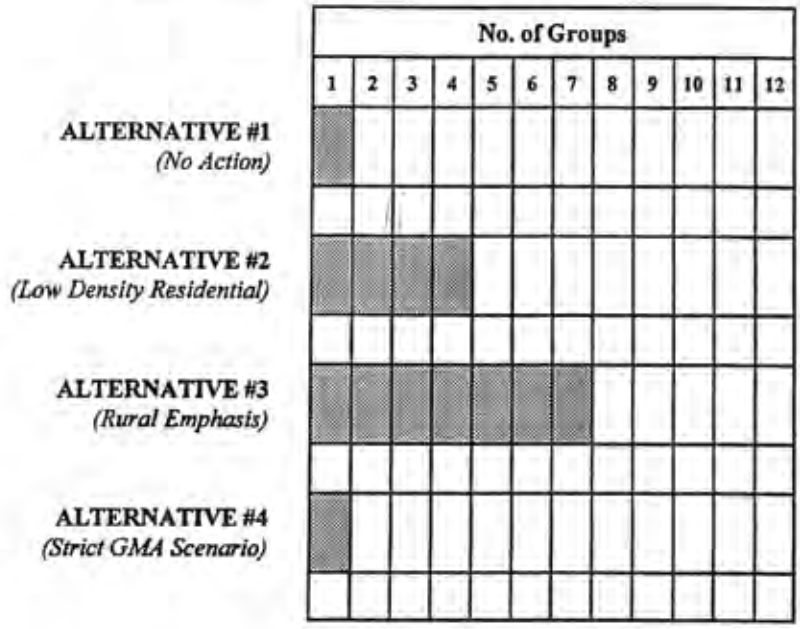
2. ***What best describes your occupation?***



Workshop No. 3: Alternative Land Use Scenarios

Workshop participants broke into 12 small groups and evaluated the four land use alternatives with respect to the goals expressed during the Visioning Workshop No. 2. The group participants utilized worksheets to reate their preferences among the four land use alternatives presented.

GROUP PREFERENCE FOR ALTERNATIVES



Draft Alternative Evaluation

The Alternatives evaluation process indicated the greatest single support for Alternative 3 (Rural Emphasis). Participants responded favorably to Alt. 3's mix of 1:5 and 1:1 residential densities in a way to maintain both the rural character and low density residential components of the Study Area. Most participants feared that 1:1 density throughout the Study Area would not maintain the existing atmosphere given the current growth projections. The majority of additional comments reflected combining portions of Alt. 2 (e.g., additional commercial land) with Alt. 3.

Alternative 1 (No Action) was widely rejected as being unworkable and inconsistent with the GMA.

Alternative 4 (Strict GMA Scenario) was considered unacceptable by the majority of groups, owing to its restrictiveness in residential densities.

PROPOSED ROCHESTER SUBAREA PLAN GUIDELINES

Proposed Plan Concept

The major goals of the proposed Rochester Subarea Plan focus on the following:

- Preservation of the rural character, agricultural uses, and sensitive environments as keys to quality of life; and economic diversity as well as environmental and human health.
- Support of the economic health of the Subarea by designating areas for adequate future residential and commercial expansion and support continuation of agricultural pursuits to promote economic diversity.

Major Plan Guidelines

Guidelines for the major conclusions of the Rochester Subarea Plan are summarized below:

- ***Residential Land Use***
  - Preserve the small town and rural atmosphere of the Subarea by providing new residential development compatible with the present housing densities and/or lot sizes.
  - Housing densities should be determined by the development suitability, the limitations of site-sensitive areas, existing land use patterns, availability of public utilities and facilities, and the impacts upon roadways.
    - Designate Rural Residential/Resource densities (1 DU/5acres) to areas outside sewer and water service areas. Designation of parcels in this category should be guided by site-sensitive areas, existing agricultural use, lot sizes predominantly larger than 5 acres, and the land's ability to handle septic sewage disposal. Clustering of development or Planned Rural Residential developments should be encouraged to allow property owners the greatest uses of their property, while still preserving open space.
    - Assign Low Density Residential densities (1 DU/acre) in or adjacent to water service areas. Parcel selection within the designated areas should be guided by site-sensitive areas, the ability to efficiently extend water service, and the presence of existing/similar lot sizes.
    - Assign Medium Density Residential densities (up to 6 DU/acre) inside water and future urban service areas.
  - Preference should be given to clustered residential development in the Rural Residential/Resource (1 DU/5 acres) designations.
  - Encourage agriculture and related uses in those areas designated Rural and allow limited agricultural activities in the Low Density Residential area.

- ***Commercial/Industrial Land Use***

  - Implement techniques which promote retention of open space and preserve agricultural lands and allow for sensitive development in commercial areas.

  - Any Commercial/Industrial designated land use in the Subarea should provide a buffer area when adjacent to agricultural and residential areas.

  - Commercial/industrial development within the Subarea should be subject to Site Plan Review to address site-sensitive areas, the need for open space, and orderly transition to surrounding Agricultural, Rural, and Low Density Residential land uses.

  - Potential commercial/industrial expansion should be allowed under the following conditions:

    - The need for additional commercial/industrial land can be demonstrated.

    - Development within the expansion area can be integrated into an existing Urban Growth Area or Future Urban Service Area

    - Evidence that the Critical Areas Ordinance (Chap. 17.15 TCC) can be met.

    - Evidence that the soils will support the commercial/industrial development.

    - Evidence that commercial/light industrial development can be done without adversely impacting existing drainage and groundwater conditions in the Subarea.

    - Subject to Site Plan Review.

- ***Agricultural Land Preservation***

  - Agricultural land uses in the Subarea Plan should be preserved through either Agricultural zoning (voluntary) or Rural Residential Resource (1 DU/5 acres) zoning and transition area buffers on adjacent commercial and residential land uses.

  - Agricultural and Rural designated lands (of 5 or more acre parcels) should be encouraged to utilize the Open Space, Timber, or Agricultural Current Use Assessment Program to preserve agricultural land.

- ***Rural Area***

  - Establish and maintain Rural Residential/Resource designated land uses (1 DU/5 acres) adjacent to Agricultural designated land to provide a transition without the need for transition area design standards.

  - Sensitive transition from Agricultural to Rural Residential to Low Density Residential land uses should occur.

- *Floodplain*
  - Development in the Scatter Creek floodplain should be allowed only when in a manner consistent with the Subarea Comprehensive Plan, Shoreline Management Master Program and Critical Areas Ordinance.
- *Wetland*
  - Potential site-sensitive areas should be preserved by limiting development to less intense levels and/or by encouraging innovative design of new development that will be compatible with natural site conditions subject to the Critical Area Ordinance (CAO).
  - Development should locate on adjacent areas or peripheral portions of site sensitive areas in conjunction with the CAO.
  - Development within the Subarea should integrate mature trees (individual and clusters) into their design.
- ***Stormwater Management***
  - The design and intensity of development should be limited by its ability to mitigate impacts upon surface runoff and drainage patterns.
  - Development should utilize natural drainage patterns and incorporate retention/detention and biofiltration methods to entrap stormwater and remove pollutants before they enter the surface and groundwater systems.
- ***Water and Sewer Service***
  - The future need for community facilities should be considered as the Subarea develops.
  - Discourage approval and extension of sewers beyond the Urban Growth and the Future Urban Services Area in the Subarea Plan, except to remedy public health concerns.
  - Water should be allowed to extend outside the Future Urban Service Area only under the following conditions:
    - Water for domestic use is necessitated because of health concerns; or
    - The extension is necessitated by development within the Rochester Water Association service area or the Low Density Residential designated areas (1 du/acre).
    - A transmission line through the Subarea is necessitated to service other areas within urban service boundaries.

- ***Recreation and Parks***

  - Local opportunities for neighborhood recreational activities and facilities should be provided to the residents of the Subarea by either the local Park District or Thurston County or some joint effort of both agencies.

  - Development projects in the Subarea shall bear a responsibility to provide mitigation measures for recreational impacts. Among methods to be considered are dedication of land, voluntary cash contributions in lieu of dedication of land, improvements to existing recreational facilities, or any combination.

- ***Transportation/Circulation***

  - Rural road conditions should be retained in areas designated Agricultural and Rural.

  - Low Density Residential development should allow streets to reflect the low density (semi-rural) character of the area.

CALCULATION OF AVAILABLE LAND FOR RESIDENTIAL USES IN THE ROCHESTER SUBAREA

The amount of land available for residential development in the Rochester Subarea was estimated with a Geographic Information System (GIS). The available land analysis was done by adding proposed zoning to a parcel data layer on an Arc/Info GIS. The proposed zoning included three residential districts: 1 unit per 5 acres; 1 unit per 1 acre; 1 to 6 units per 1 acre. The available land analysis did not include some large parcels with schools, utilities, cemeteries and agriculture (although smaller parcels with these land uses were included). Also excluded from the analysis were two areas proposed to be removed from the Rochester Subarea.

A parcel-by-parcel analysis was performed with the GIS for each of the three residential categories. A developed lands layer (created from 1990 aerial photos identifying developed land and previously entered into the GIS) was used to calculate developed acreage per parcel. Then, each parcel was checked by the GIS for building permits dated between 1/1/90 to 8/30/95. If permits existed for a parcel, additional developed acreage was calculated and added to any existing developed acreage for each parcel. To calculate the developed acreage from the building permits, the number of residential units on the permits for each parcel was multiplied by the proposed residential zoning density. The permit developed acreage was calculated twice with two different residential densities: (a) 0.2 for 1 unit per 5 acres; 1.0 for 1 unit per 1 acre; and 1.0 for 1 to 6 units per 1 acre; and (b) 0.2 for 1 unit per 5 acres; 1.0 for 1 unit per 1 acre; and 2.0 for 1 to 6 units per 1 acre.

The amount of available acres per parcel was then calculated be subtracting the developed acres for each parcel from the total parcel acreage. Parcels with development in each zoning category equal to or less than a minimum size were considered wholly developed. The minimum sizes used were:7.5 acres for the 1 unit per 5 acres zones; 1.0 acres for the 1 unit per 1 acre zones; and (a) 1 acre or (b) 0.5 acres for the 1 to 6 units per 1 acre zones.

Next, the number of units that could be accommodated on the parcel was calculated be multiplying the available acres by the buildout density. Finally, the parcel specific data (developed acres, available acres and available units for all parcels) was summed for each zoning category.

Commercial Land Calculation

The GIS was also used to calculate the amount of developed land in the proposed commercial zones of the Rochester Subarea. A map produced by a windshield survey by the Barrett Consulting Group was used to code developed portions of parcels in the GIS. Then the developed land data identified from 1990 aerial photos and road right-of-way was flagged as developed. The amount of developed and undeveloped land in the proposed commercial zones was then summed.

REFERENCES

Barrett Consulting Group, *Thurston County Grand Mound Service Area Wastewater Comprehensive Plan,* December 1995.

Barrett Consulting Group, *Thurston County Grand Mound Service Area Water System Plan/Project Report,* December 1995.

Chase Economics, *Analysis of Absorption Potential by Land Use Type in the Grand Mound Urban Growth Area, 1995-2020,* November 24, 1995.

Pacific Groundwater Group, *Grand Mound Groundwater Feasibility Assessment,* March 5, 1991.

Thurston County Advance Planning & Historic Preservation, *Thurston County Comprehensive Plan,* April 1995.

Thurston County Advance Planning & Historic Preservation, *Thurston County Critical Areas,* Chapter 17.15 TCC, February 1994.

Thurston County Environmental Health Department *(et. al.), South Thurston County Aquifer Protection Strategy,* November 8, 1993.

Thurston County Planning Department, *Rochester Sub-Area Plan,* February 14, 1978.

Western Washington Growth Management Hearings Board, *City of Port Townsend v. Jefferson County,* WWGMHB No. 95-2-0067.

Western Washington Growth Management Hearings Board, *Friends of Skagit County et. al. v. Skagit County,* WWGMHB No. 95-2-0065.