# Appendix 1 Portland Earthquakes 1877-1970

Source: Reprinted from: Hammond, Paul E., et al., *A Preliminary Geological Investigation of the Ground Effects of Earthquakes in the Portland Metropolitan Area, Oregon.* U.S. Geological Survey

| Date | Intensity[1] | Magnitude[2] | Epicenter Location |
|---|---|---|---|
| 2 Oct 1877 | III(?)[3] | | Portland Area |
| 30 Nov 1877 | III | | Portland |
| ? 1879 | IV | | Portland |
| 1 May 1882 | XII | | Portland |
| 28 Sep 1883 | ? | | Portland |
| 3 Jan 1884 | IV | | Portland |
| 10 Oct 1885 | III | | Portland |
| 3 Feb 1892 | VI | | Portland |
| 21 Feb 1898 | IV | | Portland |
| 22 Feb 1898 | III | | Portland |
| 16 Jun 1904 | ? | | Portland |
| 27 May 1907 | III | | Portland |
| 30 Dec 1909 | IV | | Portland |
| 7 Feb 1910 | 7 | | Portland |
| 15 Feb 1910 | IV | | Portland |
| 22 Mar 1914 | IV | | Portland |
| 5 Sep 1914 | III | | Portland |
| 18 May 1915 | V | | Portland |
| 12 Feb 1918 | III | | Portland |
| 9 Nov 1920 | III | | Portland |
| 4 Mar 1921 | III | | Portland |
| 22 Sep 1922 | IV | | Portland |
| 26 Sep 1922 | IV | | Portland |

| Date | Intensity[1] | Magnitude[2] | Epicenter Location |
|---|---|---|---|
| 15 May 1922 | IV | | Portland |
| 14 Jan 1932 | IV | | Portland |
| 23 Nov 1933 | III | | Portland |
| 23 Apr 1939 | III | | Portland |
| 15 Nov 1939 | III | | Portland |
| 16 Feb 1941 | III | | Portland |
| 26 Jul 1941 | IV | | Tigard |
| 29 Dec 1941 | VI | | Portland |
| 1 Nov 1942 | V | | Portland |
| 25 Mar 1951 | II | | Portland |
| 1 Feb 1954 | ? | | Canby |
| 23 Apr 1954 | IV | | 45.1.N 122.9.W near Woodburn |
| 28 Nov 1957 | III | | Portland |
| 12 Mar 1958 | II | | Portland |
| 18 Nov 1958 | III | | Gresham |
| 4 Aug 1959 | III | | Portland |
| 3 Jan 1961 | IV | | 18 km NW of CC (city center) |
| 6 Nov 1961 | VI | | 45.3.N 122.9.W |
| 7 Nov 1961 | V | | Portland |
| 29 Nov 1961 | IV | | Portland |
| 15 Dec 1961 | III | | Scappoose, 32 km NW of CC |
| 17 Oct 1962 | II | | West Linn |
| 6 Nov 1962 | VII | 5.0[4] | 45.6.N, 122.6.W; 12 km NE of CC |
| 2 Mar 1963 | IV | | Portland |
| 27 Dec 1963 | VI | 4.5[4] | 45.7.N, 122.8.W; 22 km NW of CC27 |
| 1 Oct 1964 | V | | 45.7.N, 122.8.W; 22 km NW of CC27 |

| Date | Intensity[1] | Magnitude[2] | Epicenter Location |
|---|---|---|---|
| ? Jan 1968 | IV | 3.7[4] | 45.6.N, 122.6.W; 11km NE of CC |
| 13 May 1968 | IV | 3.8[4] | 45.6.N, 122.6.W; 14 km NE of CC |
| 5 Mar 1969 | III | 3.5[4] | 45.6.N, 122.8.W; 16 km NE of CC |
| 25 Jun 1970 | IV | 3.6[4] | West Portland |

[1] Modified Mercalli Scale of 1931

[2] Unified magnitude (m)

[3] Although Berg and Baker (1963) report the intensity as III, Schlicker, etal. (1964) give the intensity as VIII. In a list compiled by Treasher (1938, unpublished data) he mentions “overthrown” chimneys and surmises the intensity to be about VIII.

[4] From Couch and Lowell (1971)

# Appendix 2 Inventory of Significant Natural Resources and Open Spaces

The Inventory of Significant Natural Resources and Open Spaces is published as a separate document. The Inventory contains detailed descriptions and evaluations of significant natural resource and open space sites within Gresham's urban services boundary. It is the purpose of the Inventory to present data relating to the location, quality, and quantity of fish and wildlife areas and habitats, ecologically and scientifically significant areas, water areas, and wetlands. The Inventory also contains brief analyses of the environmental, social, economic and energy consequences of potentially conflicting uses which might affect each of the identified natural resource and open space sites.

# Appendix 3 The Hogan Cedar: From an Article by Leonard Wiley

An article by Leonard Wiley in Northwest Magazine (February 9, 1969) offers an explanation of the origin of the Hogan Cedar.

> "What is the origin of the name Hogan Cedar? The answer is a bit obscure, like so many other things about this tree. The Hogans were early settlers in the area. Where they have gone and where they settled in this area is lost in the mists of time. But it was a common thing for roads to be named for the residents who used them. Palmquist 43 Road is another. I knew a couple of the Palmquists and there are other names of roads east of Gresham that honor some of the pioneer families. It is likely that the tree was named for the Hogans simply because they lived in the vicinity, and it is a good name too.
>
> "How did it get there? Probably it was not indigenous to the area. One theory –and you can take your choice of others – is that a Chinese nurseryman in the vicinity brought them in. His nursery was, allegedly, near the present brickyard factory. This is only a rumor, unsubstantiated in any way.
>
> "Another is that Dant and Russell, or one of their offices, lumber merchants, established Ambleside Corporation there. They, according to the story, bought some land and created what was considered a showplace of the Pacific Northwest. Their holdings were near the brickyard and adjacent to Johnson Creek. It was established for the entertainment of business guests and employees and their families. This is a story as pretty as the land, stream and forest that still exist there and it may well be true. However, officers of this well-known company, have no knowledge of such an enterprise and one of them said that Mr. Dan, Senior, was not likely to have been interested in such an undertaking. But the officers I talked with have not been with the company long enough to know to be sure of these events of long ago. The story also is that the people of the Ambleside Corporation brought in what were eventually known as the Hogan Cedars. I am inclined to give some consideration to this story although proof is lacking. At any rate the area, including seven homes at the present time, still is known as Ambleside."

# Appendix 4 Domestic Application of Wind Generated Electrical Energy

It is, of course, technically possible to provide sufficient wind generated energy to power a home, but unless there are unusual circumstances which prohibit the use of commercially generated power, it is simply not economically practical.

The average homeowner in the United States consumes some 8-12,000 KWHRS of electrical energy per year. For example, a typical homeowner might use 960 KWHRS per month. For this energy, he probably pays a monthly electrical bill of about $20.00-$25.00. This is a rate of $300.00 per year, so any investment in generating equipment should not exceed this cost per year. If one assumes a depreciation rate of 10 per cent per year and an interest rate of six per cent of the total investment, the total investment should not exceed $1,875. Therefore, if you intend to generate your own power, the initial total installed cost should be less than $1,875.

To accommodate the needs of the average homeowner requires the generation of 960 KWHRS per month. Now let us assume that he is situated on a clear windy hill and is fortunate enough to have an adequate average wind velocity in excess of ten miles per hours; for example, as in Dallas, Texas.

To produce the 960 KWHRS of energy will require a wind generator with a blade diameter of 30 feet. Such a machine would weigh three-quarters of a ton and would produce a thrust on the tower in strong winds of almost the same amount.

Obviously, the tower would have to be at least 25 to 30 feet high, very sturdily constructed, and set in a rugged foundation.

To account for periods when the wind velocity is not sufficient to provide the required energy, a battery storage system is necessary. To be effective, such a battery should provide up to five days of reserve energy. This means a battery with 160 KWHRS of stored energy. A 120 volt, 60 cell lead battery of this size would be rated at 1300 All. Such a battery would occupy most of the basement, would weigh seven tons and would cost over $14,000.

Obviously, to practically apply a wind generator for domestic use would mean many compromises, the first and foremost being a severe reduction in energy consumption. If one is ready to give up all but a few small light bulbs and a radio, then the problem is easily solved.

If you are not prepared to either give up your electrical comforts or to waste your money, then you should determine accurately your KWHR requirements and before you purchase and erect a wind plant, be certain that the supplier will guarantee to meet your energy needs at your site.

# Appendix 5 Prerequisite in Harnessing the Wind Stream as a Power Source

1. **Basic wind information, existing data:**

   A search should be made for all existing wind data for the area. These data should be assembled, their relevance assessed, and then analyzed if the data appear to be relevant and reliable. A summary of existing relevant wind information can then be prepared.

2. **Basic wind information, new data:**

   There are hourly averages of wind speed and direction at two heights, 10 meters and 30 meters, along with peak gust speeds at both heights with the frequency of occurrence of gusts in the high range specified.

   A minimum of 12 months of data at each site is required, overlapping the long-term record at a nearby station to determine if the winds for the twelve-month period are reasonably representative of climatic norms.

   Devices for directly recording the standard deviation of wind speed are commercially available arid are recommended for the thirty-meter height.

   Standardization of units and of methods of making and analyzing measurement should be adopted.

3. **Basic wind information, turbulence structure:**

   A detailed study of turbulence structure in the lower levels should be undertaken, using existing wind data from one of the Great Plains' instrument TV towers. Such a structure may be taken as reasonably representative, except over very rough terrain.

   The extensive literature on the dynamic wind loading of structures should be examined as being highly relevant. Discussions should be held with the leading authorities in this area for the purpose of determining the extent to which recent research may be applicable to the design of equipment for generating power from the wind.

4. **Weather modification:**

   The possibility of significant weather modifications being caused by single or clustered wind turbines should be examined.

5. **Public policy:**

   The content of environmental impact statements should be set forth for the guidance of those who are to prepare and those who are to evaluate such statements. Possible legal restraints should be analyzed in detail. Sites should be selected so as to minimize both audible and visual pollution.

6. **Dissemination of information:**

   A comprehensive, annotated bibliography should be prepared, kept up to date, and widely distributed. Translations of significant results of research in other languages should be made and distributed. Some appropriate agencies should be encouraged to collect and reproduce the documents that are fundamental to wind power studies. Many of these are generally unobtainable at the present time.

   Explorations should be commenced with the Solar Energy Society and its Journal concerning the possibility of changing names to the Solar and Wind Energy Society and Journal. Sponsoring agencies should support such publications by authorizing substantial page changes.

7. **Size of proof-of-concept units:**

   Since ten 100-kilowatt wind turbine units appear to have substantial advantages over one 1000-kilowatt unit at this time, sites chosen for proof-of-concept units should be suitable for accommodating ten such units even if all are not installed at one time.

# Appendix 6 Electrical Energy Requirements for a 1500 sq. ft. Residence Excluding Air Conditioning and Heating

| | Watts | Hr/Month | KWHRS/Month |
|---|---|---|---|
| **Appliances** | | | |
| Broiler | 1,440 | 6 | 9 |
| Coffee Maker | 900 | 10 | 9 |
| Dishwasher | 1,200 | 25 | 30 |
| Food Mixer | 125 | 8 | 3 |
| Disposer | 450 | 7 | 3 |
| Toaster | 1,150 | 13 | 17 |
| **Food Preservation** | | | |
| 15 Cu. Ft. Freezer | | | 120 |
| 14 Cu. Ft. Frost-Free Refrigerator | | | 160 |
| **Entertainment** | | | |
| Radio | 70 | 100 | 7 |
| Television (color) | 330 | 180 | 59 |
| **Comfort** | | | |
| Blower (forced air furnace) | 450 | 300 | 135 |
| Washing Machine | 500 | 20 | 10 |
| Lighting and Small Appliances | | | 400 |
| **TOTAL** | | | **960** |

# Appendix 7 Incentives for Alternate Energy Use in Oregon 1977 Legislative Session

## SENATE BILL 339 – INCOME AND PROPERTY TAX INCENTIVES

This bill authorizes a personal income tax credit of 25 per cent of the cost of a system up to a maximum credit of $1,000 for the installation of an alternative energy device. Such a device may be a system or mechanism which uses solar radiation, wind, or geothermal resources as a source for space heating, water heating, cooling, electrical energy, or a combination of these. The system must provide at least ten per cent of the total energy requirements for the dwelling.

## PROCEDURE

Any person may apply to the Department of Energy for certification if he intends to install an alternate energy device in his dwelling. The DOE will develop a form which will require, among other things, a description of the device and the actual cost of it. To qualify for the credit, the taxpayer must obtain this certificate; he must be the owner or contract purchaser of the dwelling; he must claim the credit in the tax year during which device is placed in service; and he is entitled to only one credit in any one taxable year. The credit must be claimed in tax years beginning on or after January 1, 1978, but before January 1, 1985.

This bill also grants a property tax exemption for solar devices which allows taxation of the property as if it were not equipped with the solar device. This property tax exemption will be in effect until January 1, 1998.

## SENATE BILL 477B – VETERANS LOANS FOR ALTERNATE ENERGY EQUIPMENT

This bill permits an eligible veteran to obtain an additional loan of up to $3,000 from the Oregon War Veterans hind for the purpose of installing an alternative energy device to his home. The alternative energy device is, again, defined as any system or mechanism which uses solar radiation, wind, or geothermal resources as source of heating, cooling or electrical energy which meets or exceeds ten per cent of the total energy requirements of the home. This bill also requires the Director of Veterans Affairs with the advice of the Department of Energy, to establish performance criteria for such devices.

# Appendix 8 Air Quality

## AIR POLLUTANT DESCRIPTIONS AND EFFECTS

### Suspended Particulate

What It Is: Solid and liquid particles of soot, dust, aerosols and fumes ranging from 0.1 to 100 microns and averaging about 2 microns in size (1 micron = 1/2540”).

What It Is From: Combustion sources, cars, industry process losses, fugitive dust, field and slash burning and natural sources, such as ocean spray and wind raised dust.

### Sulfur Dioxide

What It Is: A colorless, pungent, irritating gas.

What It Is From: Oil and coal combustion and industry process losses.

What Damage It Causes: Aggravates asthma, heart, and lung disease in the elderly, irritates lungs, is corrosive to metals and marble, and causes plant damage.

### Carbon Monoxide

What It Is: A colorless, odorless gas that is highly toxic.

What It Is From: Incomplete combustion sources, mostly cars.

What Damage It Causes: Interferes with the blood’s ability to carry oxygen, causing heart difficulties in those with chronic diseases, reduces lung capacity and impairs mental abilities.

### Photochemical Oxidants

What It Is: Mostly consists of ozone, which is an odorless, toxic gas.

What It Is From: Photochemical processes in the atmosphere by reaction between oxides of nitrogen and hydrocarbons in the presence of sunlight.

What Damage It Causes: Eye irritation, damage to lung tissue and lung functions; material damage and plant damage.

### Nitrogen Dioxide

What It Is: A reddish-brown gas, toxic in high concentrations.

What It Is From: Formed by conversion of nitric oxide (from autos and combustion sources) and from industrial sources.

What Damage It Causes: Increases chronic bronchitis and irritates lungs.

**Hydrocarbons**

What It Is: A large family of compounds consisting of hydrogen and carbon.

What It Is From: Autos, evaporative fuel losses, industry, and combustion processes.

What Damage It Causes: Hydrocarbons actively participate in oxidant formation and cause plant damage. Methane is produced naturally by decay of organic matter and is not significant in oxidant formation.

Source: Department of Environmental Quality – Air Quality Control Division, Oregon Air Quality Report, 1976.

# Appendix 9 Inventory of Historic and Cultural Landmarks

The Inventory of Historic and Cultural Landmarks is published as a separate document. The Inventory contains detailed information concerning thirty-two landmarks which have been identified as having particular value to the history and culture of Gresham. In addition to documenting the history and other characteristics of these landmarks, the Inventory includes brief analyses of the environmental, social, economic and energy consequences of potentially conflicting uses which might affect each of the landmarks. The information and analysis contained in the Inventory serves as the basis for policies and specific development standards of the Community Development Plan relating to historic and cultural resources.

(Amended by Ordinance 1414 passed 2-4-97; effective 3-6-97)
(Amended by Ordinance 1456 passed 9-15-98; effective 10-15-98)

# Appendix 10 through 17

The following Volume 1 Appendices are repealed by Ordinance No. 1551, adopting the Gresham Transportation System Plan (as Volume 4 of the Community Development Plan) effective 8-21-02.

**Appendix 10 – Major Transportation System Improvement 1980-88**

**Appendix 11 – Functional classification System Description**

**Appendix 12 – Weekday Traffic Volume Growth 1975-88**

**Appendix 13 – PM Peak Hour Traffic Volume Cutline Comparison**

**Appendix 14 – Level of Service Descriptions**

**Appendix 15 – Road Segments – Projected Level of Service**

**Appendix 16 – Worst Accident Intersections**

**Appendix 17 – MAX Boardings and Destinations**

# Appendix 18 Descriptions of Major Federal Public Assistance Programs

## U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT PROGRAMS

### *Conventional Low Rent Public Housing*

Federal aid to local public agencies to provide decent shelter for low-income residents at rents they can afford.

Local public housing agencies develop, own, and operate low income housing projects, financing them through the sale of tax-exempt obligations. HUD furnishes technical and professional assistance in planning, developing, and managing the projects and gives two kinds of financial assistance: preliminary loans for planning; and annual contributions to pay the debt service of PHA obligations, assure low rents and maintain adequate services and reserve funds. Rents that are based on the residents' ability to pay contribute to the costs of managing and operating the housing.

Several different methods are used to provide housing. Under the "Turnkey" program, the PHA invites private developers to submit proposals, selects the best proposal and agrees to purchase the project on completion. Under conventional-bid construction, the PHA acts as its own developer, acquiring the site(s), preparing its own architectural plans and advertising for competitive bids for construction. The PHA may also acquire existing housing, with or without rehabilitation, from the private market under the acquisition program.

### *Lower Income Rental Assistance (Section 8)*

A rent subsidy for lower income families to help them afford decent housing in the private market.

HUD makes up the difference between what a lower income household can afford, and the fair market rent for an adequate housing unit. No eligible tenant need pay more than 25 per cent of adjusted income toward rent. Housing thus subsidized by HUD must meet certain standards of safety and sanitation, and rents for these units must fall within the range of fair market rents as determined by HUD. This rental assistance may be used in existing housing or in new construction or, substantially rehabilitated units. Different procedures apply in each case.

Local public housing agencies administer the existing housing program, certifying eligible tenants, inspecting the units proposed for subsidy, and contracting with approved landlords for payment. (Tenants execute separate leases with landlords to pay their share of rent.)

Nonprofit and profit-motivated developers, alone or together with public housing agencies, submit proposals of substantial rehabilitation or new construction in response to invitations from HUD; or they may apply to their state housing finance agency. On approval of the proposals, HUD contracts to subsidize the units to be occupied by eligible families.

### *Low Income Leased Public Housing (Section 23)*

Private housing leased for low-income use.

HUD pays basic annual contributions which permit local public agencies to lease decent private housing for low-income families at rents they can afford. The annual contributions make up the difference between the rents paid to private owners (plus local public agency operating expenses) and what low-income tenants can afford. That amount is based upon the tenant income but may not exceed 25 per cent of adjusted income. The annual contributions cannot exceed the amount that would be paid by the local public agency for a newly constructed project designed to accommodate comparable numbers, sizes, and kinds of families. The basic contribution may be adjusted for higher operating costs due to tax or utility increases.

### *Direct Loans for Housing for the Elderly or Handicapped (Section 202)*

To provide housing and related facilities for the elderly or handicapped.

Long term direct loans to eligible, private, nonprofit sponsors finance rental or cooperative housing facilities for elderly or handicapped persons. The current interest rate is based on the average rate paid on federal obligations during the preceding fiscal year. (Until the program was revised in 1974, the statutory rate was three per cent). Participation in the Section 8 rental housing program is required for a minimum of 20 per cent of the Section 202 units.

### *Homeownership Assistance for Low- and Moderate-Income Families (Revised Section 235)*

Mortgage insurance and interest subsidy for low- and moderate-income home buyers.

To enable eligible families to afford new homes that meet HUD standards, HUD insures mortgages and make monthly payments to lenders to reduce interest to as low as 4 per cent. The homeowner must contribute 20 per cent of adjusted income to monthly mortgage payments and must make a down payment of three per cent of the cost of acquisition. There are dollar limits on loans and sales prices. Mortgage limits are $32,000 ($38,000 for homes for five or more people), and in high-cost areas $38,000 ($44,000 for homes for five or more persons). The income limit for initial occupancy is 95 per cent of the area median income.

Prior to 1976, this program provided larger subsidies to lower income households and required a substantially smaller investment from them.

### *Rental and Cooperative Housing Assistance for Lower Income Families (Section 236)*

Mortgage insurance and interest reduction and operating subsidies to reduce rents for lower income households.

Originally HUD insured multi-family mortgages and paid interest subsidies to lenders which allowed the mortgage to be paid off by the project owner at an. interest rate as low as one per cent. The reduction this made possible in monthly rents was designed to produce new or substantially rehabilitated rental or cooperative units for lower income households. Tenants contribute 25 percent of adjusted income

or the basic rent, whichever is the greater. Beginning in 1974, HUD paid additional subsidies to cover the difference between the tenant's contribution and the actual costs of operating the project.

### *Rent Supplements*

Federal payments to reduce rents for certain disadvantaged low-income persons.

HUD may pay rent supplements on behalf of eligible tenants to certain private owners of multi-family housing insured by the Federal Housing Administration. The payment makes up the difference between 25 per cent of tenant's adjusted income and the fair market rent determined by HUD). However, the subsidy may not exceed 70 per cent of the HUD approved rent for the specific unit. HUD) may pay the supplements for a maximum term of 40 years.

### *Rehabilitation Programs (HCD)*

Loans to assist rehabilitation in federally aided Community Development Block Grant, Urban Homesteading (Section 810), Urban Renewal and Code Enforcement areas.

Direct federal loans finance rehabilitation of residential, mixed use, and nonresidential properties in the above areas certified by the local government. By financing rehabilitation to bring the property up to applicable code, project or plan standards, the loans prevent unnecessary demolition of basically sound structures. A loan may provide for insulation and installing of weatherization items. Loans may not exceed $27,000 per dwelling unit or $50,000 for nonresidential properties and the actual amount of a loan may be less, depending on certain factors.

Source: Programs of HUD, U.S. Department of Housing and Urban Development, pp. 17, 31-33, 35-36; May 1978.

## U.S. DEPARTMENT OF AGRICULTURE – FARMERS' HOME ADMINISTRATION PROGRAMS

The Farmers Home Administration is authorized to make loans only in rural areas. Rural areas include open country and communities with population of not more than 10,000 which are rural in character and not closely associated with urban areas. Under certain conditions, FMHA is permitted to make housing loans in places of up to 20,000 in population which are not contained within a standard metropolitan statistical area. Following is a brief description of FMHA housing loan and grant programs:

### *Section 502 Rural Housing Loans*

The FMHA makes home ownership loans to eligible low- and moderate-income applicants including the elderly to purchase, build or repair homes located in rural areas. These loans are made to families who are without decent, safe, and sanitary housing of their own. The amount of loan varies due to the families' needs and location; however, the home must be modest in size, cost, and design. The current income limits that applicants must meet in order to qualify for a Rural Housing loan is an adjusted annual income of $l5,600*. Families with adjusted annual incomes of less than $11,200* may qualify for an interest subsidy which we can interest credit. However, in no case can FMHA reduce the

borrower's loan payment to less than that required if the loan were amortized at one per cent interest rate. The current interest rate is 8-1/2 per cent* with terms up to 33 years. A family must have sufficient income to pay necessary family living expenses, payments on the proposed loan (including insurance and real estate taxes) payments on other debts, and home maintenance expenses.

* subject to change

### *Section 504 Rural Housing Loan and Grant*

This program is designed to assist very low-income owner-occupants in rural areas who do not qualify for Section 502 loans to repair or improve their dwellings to make such dwellings safe and sanitary and remove hazards to the health of the occupants. A grant may be made only to an applicant that is 62 years of age or older and has an income so low that he/she cannot repay any part of a Section 504 loan. The interest rate for loans under this program is one per cent. The loan, loan and grant, or grant may not exceed $5,000. The loan will be scheduled for repayment in accordance with the applicant's ability to pay but not to exceed 20 years.

### *Section 515 Rural Rental Housing Loans*

FMHA also has a Rural Rental Housing loan program for the financing of multi-family housing projects in rural areas. The current interest rate is 8-1/2 per cent (subject to change), but it may be reduced to as low as one per cent if tenants of the project are of low income and the borrower is a nonprofit type of organization or one that agrees to operate on a limited profit basis. Rental Assistance can further reduce rental rates to 25 per cent of a tenant's adjusted monthly income. (For tenants with annual adjusted incomes of $11,200 or less – subject to change.) The maximum repayment period is 50 years. In order for a tenant to occupy a rental unit financed under the Rural Rental Housing program, non-senior citizens must have an annual adjusted family income not to exceed $15,600 (subject to change). There is no maximum income limit for senior citizens aged 62 years or older.

Source: U.S. Dept. of Agriculture, Farmers' Home Administration "Rural Housing Programs"

## EXPLANATION OF DATA

### *HUD Programs*

Conventional Low Rent Public Housing – The number of conventional housing units owned by the area's public housing authorities.

**Section 8:** The number of renter households receiving Section 8 rent certificates as a result of activities of the area's public housing authorities, the State of Oregon Housing Division, HOD, the MUD Section 236 program and private developers.

**Section 23:** The number of renter households residing in Section 23 units, operated by the area's public housing authorities.

**Section 202:** The number of Section 202 units built (and committed to be built) with long term subsidized direct loans.

**Section 235:** The number of owner households with Section 235 mortgage assistance subsidies.

**Section 236:** The number of Section 236 units which were built with mortgage insurance, interest reduction and operating subsidies less the Section 8 units in the program. The Section 2365 units have a certain number of households receiving Section 8 rent certificates in them, but these households have been subtracted from the Section 236 total and added to the Section 8 figure. Only those Section 236 units without Section 8 households in them are tabulated here.

**Rent Supplements:** The number of rental households receiving rent supplements.

**Rehabilitation Programs:** The number of units receiving rehabilitation loans through the HUD Block Grant program since July of 1975.

# Appendix 19 Trends in Gentrification and Displacement Risk in Gresham

## TABLE OF CONTENTS



## I. INTRODUCTION

Information about the current trends in gentrification and displacement risk in Gresham should be used to inform potential actions that City could take to mitigate the risk that the city's most vulnerable populations would be displaced from their housing. ECONorthwest completed this analysis in 2022[1] building on their 2015 Gresham Neighborhood Change report.[2]

[1] Appendix E of the 2023 Housing Production Strategy from Beth Goodman, Emmanuel Lopex, and Justin Sherrill

[2] Gresham Neighborhood Change Analysis. 2015. ECONorthwest. https://greshamoregon.gov/WorkArea/DownloadAsset.aspx?id=1409

Gentrification has may definitions such as "a process of neighborhood change that includes economic change in a historically disinvested neighborhood – by means of real estate investment and new higher-income residents moving in - as well as demographic change – no only in terms of income level, but also in terms of changes in the education level or racial make-up of residents."[3]

The high-level results of our analysis reveal that:

- **Powell Blvd/Highway 26 is a dividing line when it comes to gentrification and socioeconomic vulnerability.** In general, more vulnerable and gentrifying areas are to the north of the highway and more stable areas to the south.
- **Most Gresham residents live in neighborhood that are at risk of gentrification.** Approximately 75% of households live in areas that are either susceptible to gentrification or in the early stages of gentrification. These areas are generally those that also have high levels of socioeconomic vulnerability, which may lead to housing insecurity or displacement.
- **Gresham has a substantial number of households that are at-risk of displacement and vulnerable, especially in the northern parts of the city.** Gresham has higher concentrations of vulnerable populations such as people with less than a bachelor's degree, Hispanic/Latinx population, and Black, Indigenous, and other People of Color (BIPOC).

In the following sections, we will examine results and trends in further detail. An overview of the methodologies used in this analysis are within this memorandum.

## II. ANALYSIS METHODOLOGY

ECONorthwest conducted this analysis by combining two parallel models that look at (1) where the city's most **socioeconomically vulnerable populations** are currently clustered and (2) where **gentrification** has been most rapidly advancing within Gresham since 2010. While the causal relationship between gentrification and displacement is complicated, this analysis considers both gentrification and socioeconomic vulnerability, which are markers that can help planners and elected officials identify neighborhoods where policy interventions should be prioritized. Some research has shown that displacement comes before gentrification.

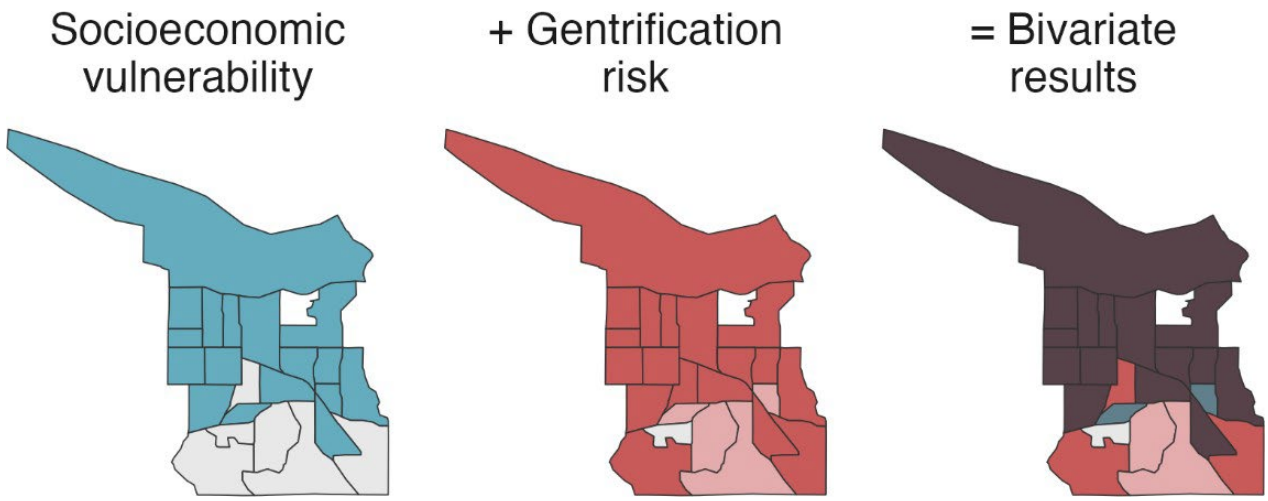
There are very few investigations into gentrification and displacement that have resulted in "accurate" predictors of displacement, as there is no real way to measure whether or not the predictors captured the events. This analysis is to be used to recommend how to target the location of policy approaches to the specific characteristics and needs of neighborhoods.

Within the **socioeconomic model**, we designed a model that identified the Portland Metro region's most disproportionately cost-burdened demographic groups (such as households with children present or households with people of color, or households with people with a disability) using 2016-2020 ACS PUMS data, then compiled Census tract-level estimates of these demographic groups.

[3] Chapple, K., & Thomas, T., and Zuk, M. (2021). Urban Displacement Project website. Berkeley, CA: Urban Displacement Project

Within the **gentrification model**, we used Dr. Lisa Bates' 2018 gentrification methodology that the Portland Bureau of Planning and Sustainability (BPS) used for the city of Portland, which identifies areas in different stages of gentrification, from stable (low risk of gentrification) to early-stage gentrification to late-stage gentrification. The data we used was similar to the data Dr. Bates used but shifted over a few years for ease of accessibility, for example: rather than using decennial census, we used American Communities Surveys for the years of 2006-2010, 2011-2015, and 2016-2020. For housing market conditions, we utilized RLIS data to capture median sale prices within a census tract for the years of 2010 and 2020.

Exhibit 1. Bivariate Analysis Outline




## Socioeconomic Vulnerability Methodology

In this part of the analysis, ECONorthwest answers the question, "Who is most likely to be displaced if housing market conditions were to further appreciate in price or stay the same?"

We began with identifying groups that are inequitably burdened by housing costs, meaning that these groups have higher rates of cost burden compared to all households. First, we developed a weighted vulnerability indexing analysis, based on Oregon's 2019 Public-Use Microdata Survey (PUMS) data at the state level to identify demographic groups that are unequally burdened by housing costs. This means that a given group's share of the state's cost-burdened households is greater than its total share of all state households. For example, households with a Hispanic/Latinx head comprise 8.6% of the state's households, but 13.4% of the state's cost-burdened households – a difference of 4.8% points.

Our analysis identified six demographic groups that were most disproportionately burdened:

- Households with children present
- Black, Indigenous and People of Color (neither White non-Hispanic, nor Hispanic/Latino people are included in this group)
- People of Hispanic/Latino origin, any race

- People five years and older who speak English "not well"
- People with one or more disabilities
- People 25 years and older who have an educational attainment of less than a bachelor's degree

Disproportionate cost burdening varies across the state. To capture this variation, ECONorthwest compared disproportionate cost burdening among these groups for six geographic areas of the state and compared levels of disproportionate cost burden among the demographic groups for Census tracts in Gresham with state and regional results.[4]

The result of this analysis is identification of Census tracts with lower and higher percentages of people in vulnerable groups. Census tracts with higher vulnerability levels would indicate places where it is more likely that not only current, but where future housing cost burdening and possible displacement are more likely to occur.

## Gentrification & Displacement Methodology

Displacement takes many forms and does not have a singular definition. The researcher operationalizes displacement differently within their analytical approach. Displacement is caused by many factors and there is not a clear causal relationship between displacement and gentrification. Put another way, investment in an area does not need to lead to residents leaving the area, especially if the city takes actions to avoid displacement. This awareness of the potential for displacement with neighborhood investment can allow a city to prevent or reduce displacement associated with investments. The analysis identifies Census tracts in Gresham where gentrification is taking place or may take place in the future. These tracts where place-specific ordinances and location-specific research can serve to protect vulnerable populations and determine how much the data matches the lived experience of residents on the ground.

The Gentrification and Displacement Risk Analysis methodology used in this analysis mirrors closely to what BPS and Dr. Lisa Bates utilized in 2018 with an additional typology, explained below.[5] The analysis considers the following characteristics:[6]

[4] ECONorthwest rank-ordered vulnerable demographic groups by six geographic areas of the state. We used the rank (1 through 6) as a weighting factor. Based on this rank-ordered list, we next used tract-level 2019 ACS estimates of all six demographic groups to calculate each tract's percentage of its region's total number of vulnerable groups. This share was then converted to decile ranks, and each decile rank was multiplied by the rank-ordered weighting factor. These "scores" were then summed for each tract, with total scores ranging between 21 to 210. Lastly, this score was then divided by the maximum possible value to compute a more intuitive percentage value, with "100%" indicating tracts with the **highest** levels of **all** vulnerable demographic groups.

[5] The methods used by ECONorthwest draw from the work of Dr. Lisa Bates and BPS, but used the observation years of 2010, 2015, and 2020 for both Census and American Communities Surveys years.

[6] More information about the definitions for the "Vulnerable Population", "Demographic Change", and "Housing Market Condition" can all be found in the 2018 report here.

A. **Vulnerable populations** are ones with:
   - High rates of renting households relative to the region
   - Large shares of communities of color relative to the region
   - Large shares of adults (25 years and older) without a four-year degree relative to the region
   - Large shares of low-income households (below 80% Median Family Income) relative to the region

B. **Demographic changes** (over the last decade or so) require three of the following four conditions being true or the **two bolded** were true:
   - Share of homeowners increased or decreased slower than the regional average
   - **Share of white population increased or decreased slower than the regional average**
   - **The share of adults with a four-year degree increased faster than the regional average**
   - Median household income increased faster than the regional average

C. **Housing market conditions** are Census tracts with the following conditions:
   - **Adjacent tracts:**
     - Had low or moderate 2010 home values/rents
     - Experienced low or moderate 2010-2020 appreciation (or 2015-2020 rental appreciation)
     - Touched the boundary of at least one tract with high 2020 values and/or high 2010 appreciation (or 2010-2020 rental appreciation)
   - **Accelerating tracts:**
     - Had low or moderate 2020 home values/rents
     - Experienced high 2010-2020 appreciation (or 2010-2020 rental appreciation)
   - **Appreciated tracts:**
     - Had low or moderate 2010 home values/rents
     - Had high 2020 home values/rents
     - Experienced high 2010-2020 appreciation

This analysis of change (in populations, demographics, and housing markets) over time is completed at the regional and Census-tract levels, rather than at the household level. A basic limitation of census and ACS data is that they cannot provide longitudinal data on individual households between surveys (e.g., over +10-year spans of time). Whether or not low-income families in Gresham have been

displaced from other neighborhoods in that time (tracts labeled Late: Type 1 or Dynamic) requires a much deeper level of analysis and qualitative analysis done by either academics or the City.

Exhibit2 shows a summary of the typologies used in this analysis. They are:

- **Early-Stage Gentrification.** These tracts have not started to gentrify or show early signs that they could be gentrifying.
- **Susceptible.** These tracts have higher shares of vulnerable populations but have not yet experienced demographic changes. Their housing market shales and rents were low or moderate in costs, but they are adjacent to tracts whose housing costs are already high or are increasing rapidly.
- **Early: Type 1.** These tracts have higher shares of vulnerable populations but have not yet experienced demographic changes. Their housing market is still low or moderate in cost but has experienced high appreciation since 2010.
- **Early: Type 2.** These tracts have higher shares of vulnerable populations but have experienced demographic changes showing the loss of vulnerable populations. Their housing market is low or moderate in costs, but they are adjacent to tracts whose housing costs are already high or are increasing rapidly.
- **Mid-Stage Gentrification.**
- **Dynamic.** These tracts are currently undergoing gentrification. They have higher shares of vulnerable populations and have experienced demographic changes by losing vulnerable populations. Their housing market is still low or moderate in costs but has experienced high appreciation since 2010.
- **Late-Stage Gentrification.** These tracts have mostly gentrified but vulnerable populations may still reside in there. The housing market has completely shifted from low or moderate to high housing costs.
- **Late: Type 1.** These tracts have higher shares of vulnerable populations but have experienced demographic changes y losing vulnerable populations proportionally. Their housing market used to be low or moderate in 2010 but has appreciated rapidly since, and now values are high.
- **Late: Type 2.** These tracts no longer have high shares of vulnerable populations like they used to in 2010. They have experienced demographic changes by losing their once-high share of vulnerable populations. Their housing market is still low or moderate but has experienced high appreciation since 2010.
- **Continued loss.** These tracts no longer have high shares of vulnerable populations like they used to in 2010 or in 2015. The share of white people is growing and/or the share of people with a four-year degree is growing. Their housing market used to be low or moderate in 2010 but has appreciated rapidly since, and now values are high.

- **Stable Low-Vulnerability Communities.** These tracts are ones that have had historically low levels of vulnerable populations relative to the region (from 2010-2020).

Exhibit 2. Gentrification/Displacement Methodology

| Typology | Vulnerable Population? | Demographic Change? | Housing Market Condition |
|---|---|---|---|
| **Early-Stage Gentrification** | | | |
| Susceptible | Yes | No | Adjacent |
| Early: Type 1 | Yes | No | Accelerating |
| Early: Type 2 | Yes | Yes | Adjacent |
| **Mid-Stage Gentrification** | | | |
| Dynamic | Yes | Yes | Accelerating |
| **Late-Stage Gentrification** | | | |
| Late: Type 1 | Yes | Yes | Appreciated |
| Late: Type 2 | Used to be in 2010 or 2015 | Yes | Accelerating |
| Continued Loss | Used to be in 2010 or 2015 | Increasing share of white people and adults with bachelor's degree | Appreciated |
| **Stable- Low Vulnerability**** | No | No | Any** |

# III. WHAT NEIGHBORHOODS ARE AT MOST RISK OF GENTRIFICATION AND DISPLACEMENT?

## The Most At-Risk Neighborhoods are in the Northern, Denser Areas of Gresham, While the More Stable, Low-Risk Neighborhoods are Located South of US 26.

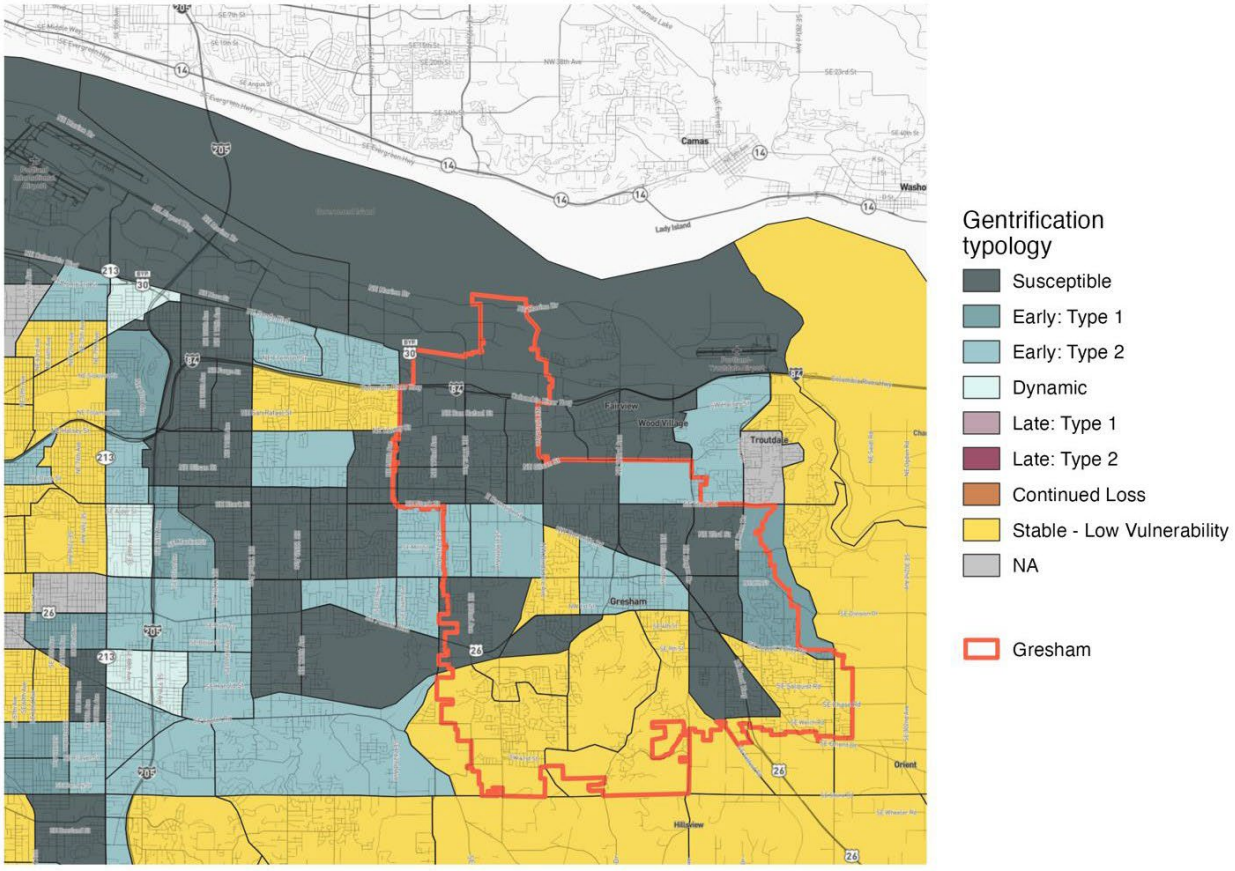
Most households (~53%) live in Census tracts that are susceptible to gentrification, with 22% of households in the early stages of gentrification, while around 25% are in low-risk areas (see Exhibit 4).

**Most tracts north of Powell Blvd/Highway 26 are classified as Early: Type 2 or Susceptible** (see Exhibit 3). Demographic changes and housing price increases suggest that these areas are in the early stages of gentrification. This indicates that economically vulnerable neighborhoods may be at-risk of experiencing gentrification which ultimately leads to rising housing costs, and potentially displacement. Early: Type 1 may indicate that some areas are already experiencing gentrification to some degree, while Early: Type 2 indicates demographics of the neighborhood are changing relative to the Metro area while also being in close proximity to tracts that are increasing in housing value (both rent and sale value).

**Areas south of Highway 26 are generally classified as Stable – Low Vulnerability** (see Exhibit 3). In these neighborhoods, incomes and housing prices are generally higher and have not changed over the study period (2010-2020). However, some pockets of Susceptible tracts are found in this area around Hogan Butte and Hogan Cedars.

Exhibit 3 shows Gresham's gentrification typology by census tract.

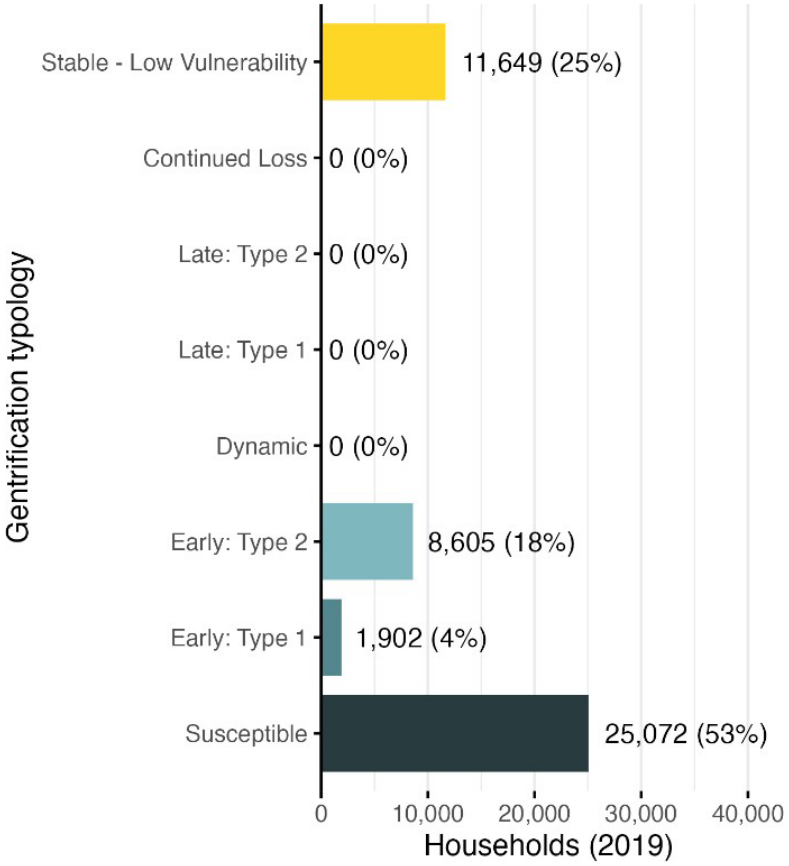
Exhibit 3. Gentrification Typology by Tract
Source: ACS 2010, 2015, 2019 (5-year), RLIS, ECONorthwest, Bates/BPS




About three-fourths (`75%) of households in Gresham live in tracts that are in the early or susceptible stages of gentrification, as shown in Exhibit 4. While this does not necessarily indicate that three-fourths of *all households* are at risk of gentrification, it indicates that the majority of Gresham shows signs of housing instability relative to the Metro region.[7]

[7] Gresham's tracts are small enough that they cannot be compared to each other. As a result, the methodology used in the analysis compares Gresham to the Metro region, which makes additional examination of regional differences difficult.

Exhibit 4. Total Gresham Households by Tract Gentrification Typology
Source: ACS 2010, 2015, 2019 (5-year), RLIS, ECONorthwest




## Neighborhood-Level Observation Results

Gentrification can be quite a nuanced topic. While the data presents one story about an entire census tract, Gresham's neighborhoods that are in the process of being gentrified may be a much smaller portion of that Census tract.

For Gresham, most tracts and households within those tracts fall under the definition of **Early: Type 2** and **Susceptible**. These typologies are characterized by having high levels of economic vulnerability, low rates of demographic change, and having either nearby tracts (called "adjacent" tracts) becoming more valuable (rents and/or sale prices appreciating quickly) or being in an "appreciated" tract where rent values and home sale prices rose drastically between 2010 and 2020. These tracts are ones where the City may want to focus active monitoring to make sure that residents who are already cost-burdened are not forced to leave due to gentrifications.

# IV. WHERE DO GRESHAM'S MOST VULNERALBE RESIDENTS LIVE?

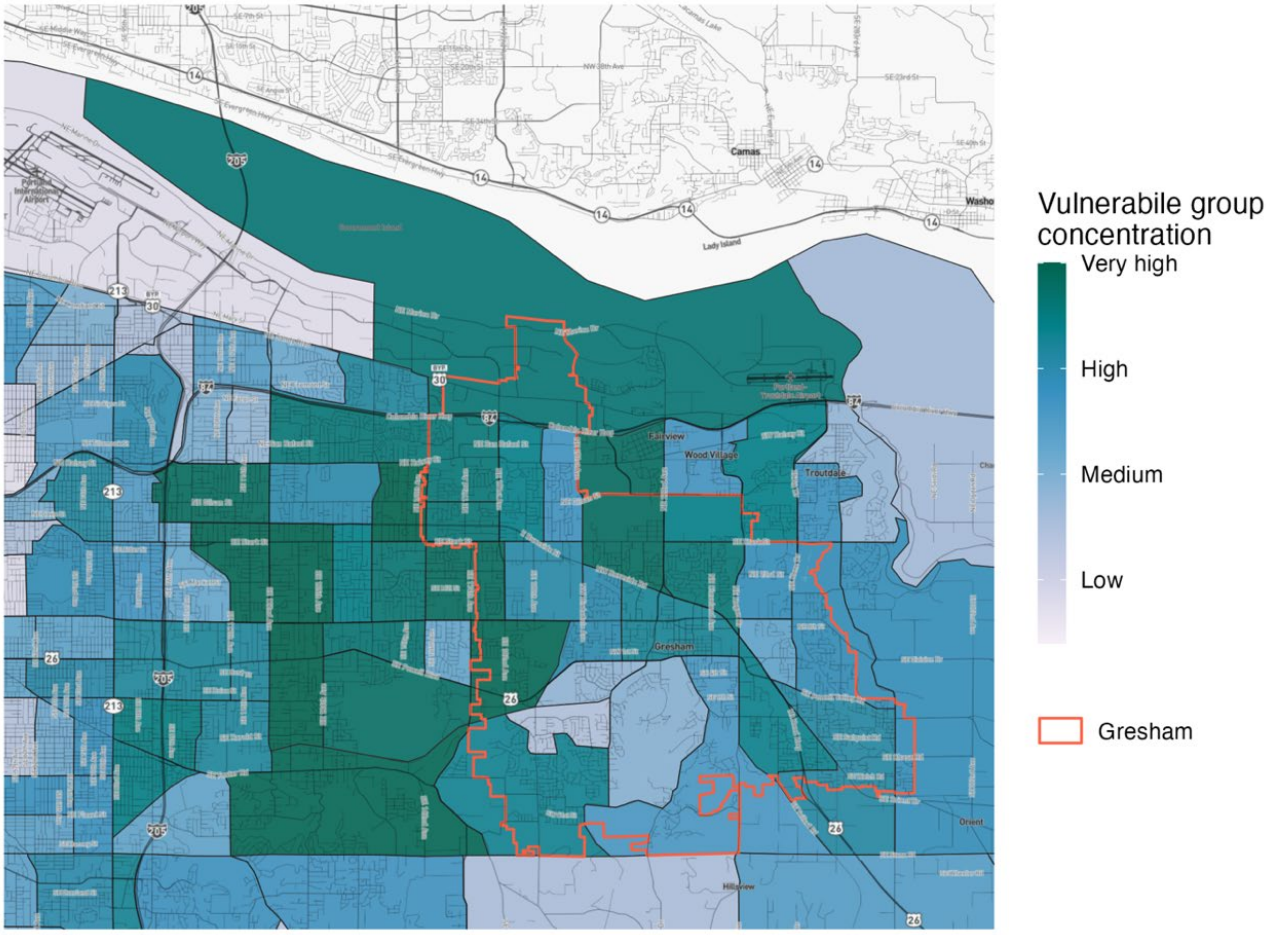
While the previous section provides information on how tracts in Gresham have or have not gentrified, based in part on the Dr. Bates/BPS methodology, this does not answer the question of which neighborhoods and demographic groups are most disproportionately burdened by housing costs. To

address this issue, ECONorthwest developed a separate model (described on page 3) using ACS/census datasets to determine which tracts in Gresham are most acutely and unequally burdened by housing prices – the implication being that, should trends hold, the most burdened households today will likely be the first to be displaced tomorrow.

## Tracts Showing the Highest Levels of Vulnerability are Mainly Clustered Around Gresham's Western and Northern Boundary.

Exhibit 5 shows the results of the Socioeconomic Vulnerability model. These "high-vulnerability" tracts contain the combined largest shares of the Metro region's most disproportionately cost burdened demographic groups, such as people without a bachelor's degree or higher, people of color, and people living with one or more disabilities. Low-vulnerability tracts in Gresham are mostly found in the south central areas of the city, around Hollybrook neighborhood and southwards. Most vulnerable tracts are clustered in the northern portion of Gresham, but the unique groups that make up those tracts vary around the city.

Exhibit 5. Overall Socioeconomic Vulnerability by Tract
Source: ACS 2010, 2015, 2019 (5-year), RLIS, ECONorthwest



## V. WHO IS MOST LIKELY TO BE DISPLACED IF HOUSING MARKET CONDITIONS CONTINUE TO APPRECIATE OR STAY THE SAME?

Some interesting trends include a noticeable clustering of Limited English Proficiency (LEP) households along Gresham's northwestern boundary, higher BIPOC shares in the Centennial neighborhood area, and higher clustering of households with at least one disabled person around the North Central neighborhood. Exhibit 3 shows the results of our Socioeconomic Vulnerability analysis, broken out by each demographic group examined.

Across the state of Oregon, having less than a bachelor's degree was the strongest determinant of cost-burdened households. Gresham largest vulnerable group is Less than a bachelor's degree, though this group can also include relatively more financially secure elder or retired residents.

Exhibit 6. Vulnerable Group Concentration by Tract
Source: ACS 2010, 2015, 2019 (5-year), RLIS, ECONorthwest

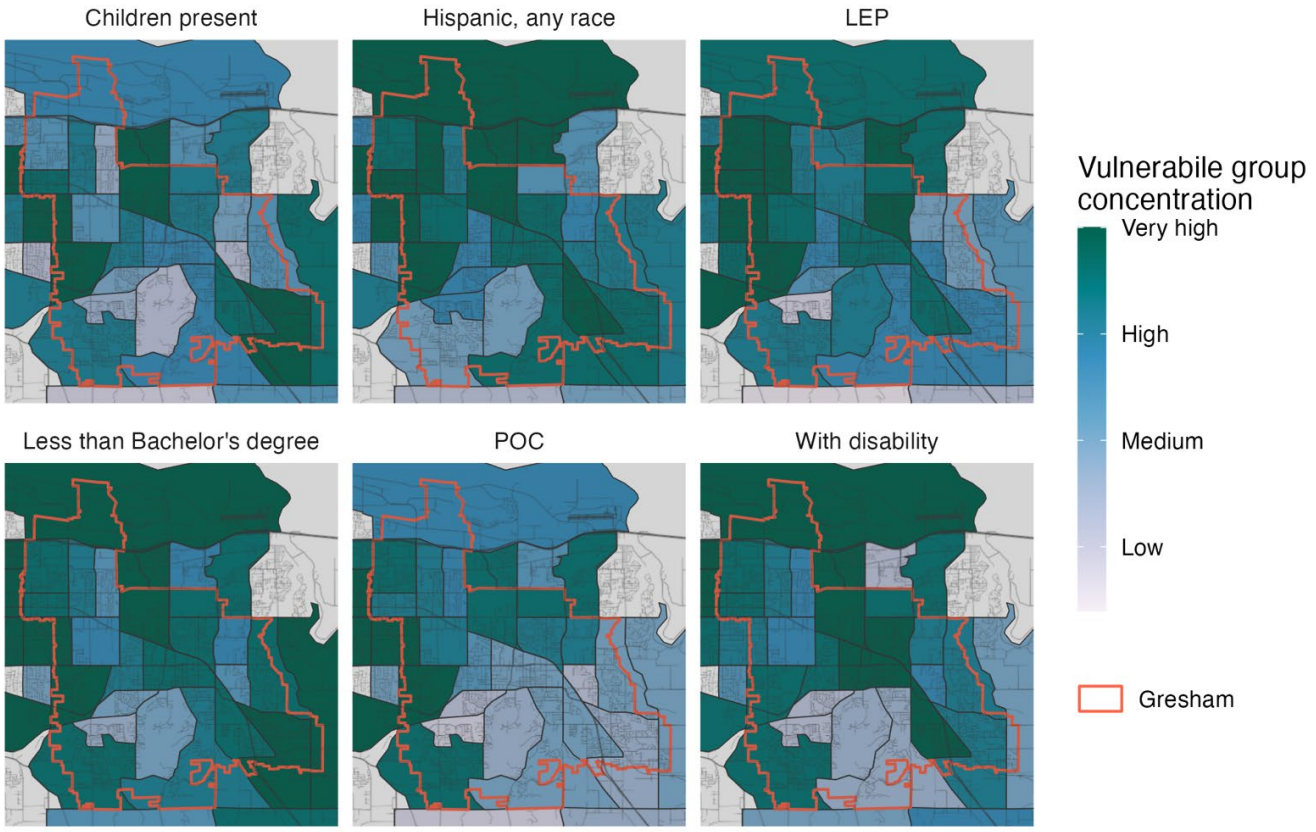



Exhibit 7 depicts the combined Socioeconomic Vulnerability model results in terms of number of households that reside in tracts with intersecting gentrification typologies and socioeconomic vulnerability groupings. For instance, we find that the most common intersection of our model are the 36,708 households living in a Susceptible to gentrification tract and having a head of household

educational attainment of less than a bachelor's degree. These demographic groups are not mutually exclusive, so many households would be counted in multiple groups (i.e., a BIPOC head of household, with children present, and with someone in the household having a disability).

Exhibit 7. Estimated Households or Populations by Vulnerability Group and Gentrification Typology
Source: ACS 2010, 2015, 2019 (5-year), RLIS, ECONorthwest
Note: The colors in the graph indicate total number of households facing a level of vulnerability to a typology of gentrification. The darker the color, the higher the number of households.


Most socioeconomically vulnerable residents in Gresham are in the "Less than bachelor's degree" group, which falls in line with high degrees of housing cost-burdening across the state of Oregon. This sub-group is concentrated in tracts that are susceptible gentrification, or have started the process of gentrifying, thus placing them even more at risk. Interestingly, there are also pockets of neighborhoods in Gresham that are stable with low levels of vulnerability for their neighborhood gentrifying, while also having a high number of households without a bachelor's degree.

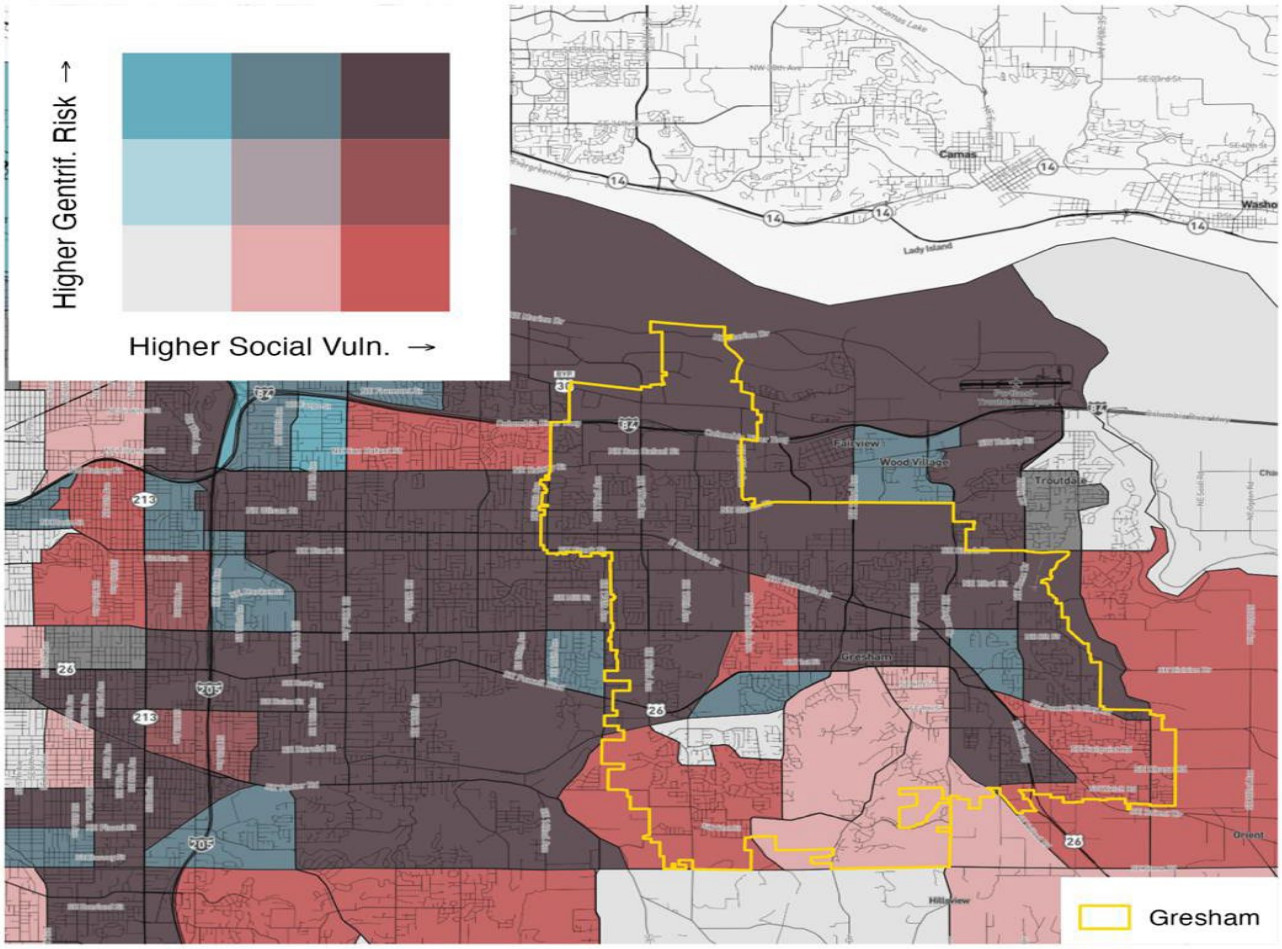
# VI. WHERE DO AREAS WITH HIGHER GENTRIFICATION RISK AND VULNERABLE POPULATIONS INTERSECT?

## Powell Blvd/Highway 26 is a Diving Line When It Comes to Gentrification and Vulnerability

Gresham, along with portions of East Portland, contain large amounts of the Metro region's most vulnerable tracts when considering both gentrification and displacement risk. The denser tracts north of Powell Blvd./Highway 26 exhibit signs of highest gentrification risk combined with high socioeconomic vulnerability to displacement. By comparison, areas south of Highway 26 (which are lower density and have a larger share of homeowners) show signs of low gentrification risk or low levels of socioeconomic vulnerability.

Exhibit 8 shows area with higher gentrification risk and areas with higher social vulnerability.

Exhibit 8. Composite Gentrification & Socioeconomic Vulnerability Risk, by Tract
Source: ACS 2010, 2015, 2019 (5-year), RLIS, ECONorthwest



Indicators of higher gentrification risk include:

- High shares of low-income households
- Changing socioeconomic demographics as compared to the region
- Rising prices of housing for sales and rent

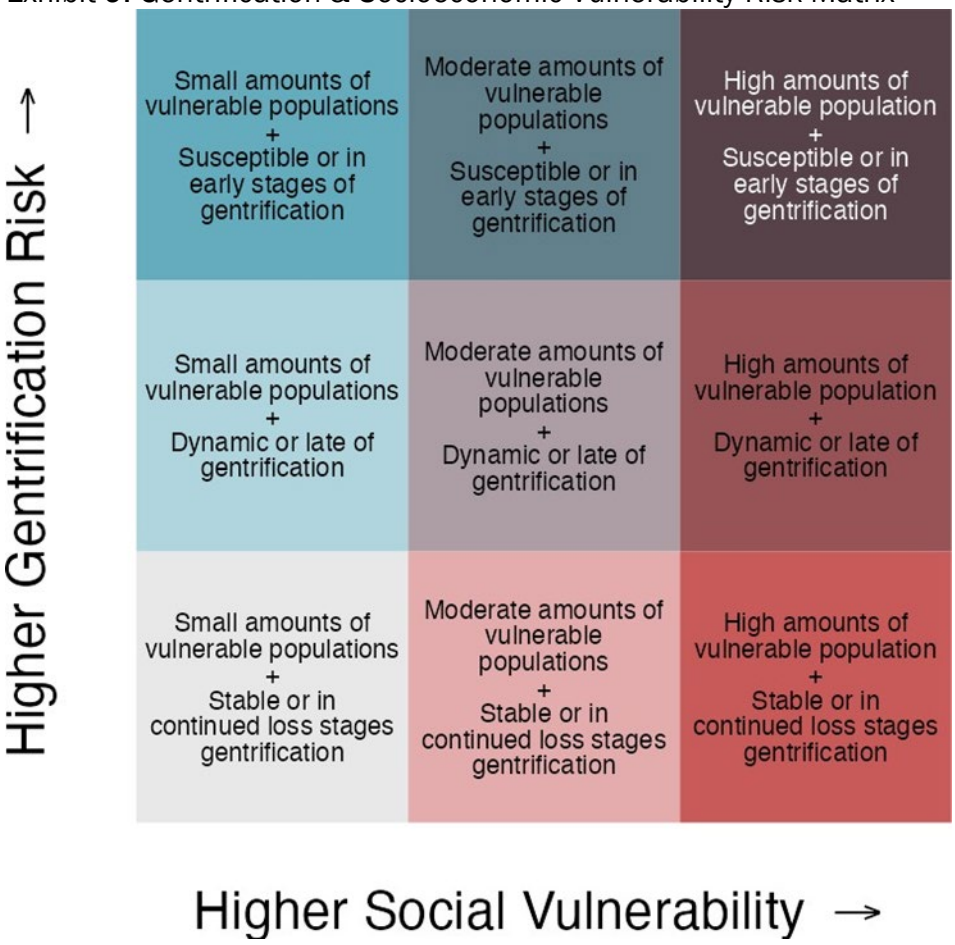
Indicators of higher social vulnerability include:

- Higher shares of the region's BIPOC
- Higher shares of the region's population without a bachelor's degree or higher

Exhibit 9 provides more context about the risk for gentrification and the level of social vulnerability in Exhibit 8. The following describes the gentrification risk and social vulnerability at each corner of the matrix.

- **Top row left side – in blue.** These areas are at risk of displacing existing populations but the populations in these areas are generally less vulnerable as compared to the region. This may also indicate that neighborhoods nearby are experiencing appreciations in home sales and rents.
- **Top row left side – in dark grey.** These areas are the highest risk of displacement of existing vulnerable population, such as lower-income households, people of color, Latino households, or other vulnerable populations.
- **Bottom row left side – in light grey.** These are areas with little risk of displacement and few vulnerable populations.
- **Bottom row, right side – in pink.** These areas have little existing risk of displacement but are home to vulnerable populations.

Exhibit 9. Gentrification & Socioeconomic Vulnerability Risk Matrix




## Most Gresham Residents Live in Neighborhoods That Are at Risk of Gentrification

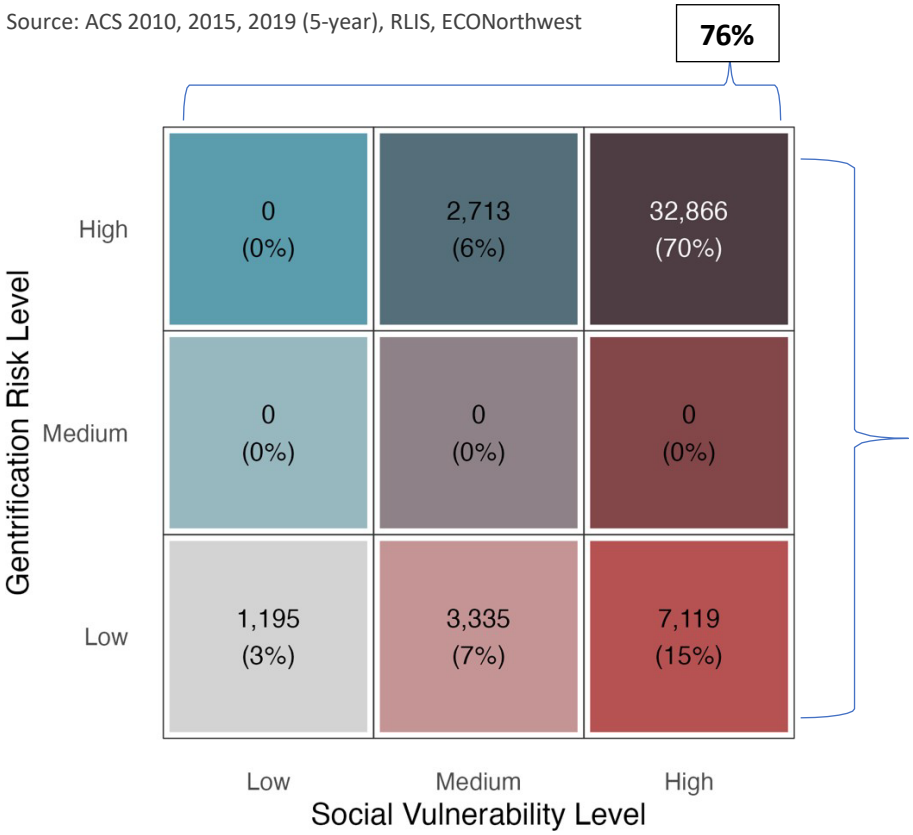
Many Gresham residents are at risk of displacement. The analysis describes the households and tracts that may be at most risk of displacement or additional cost-burdening if the City continues business as usual. Nearly two thirds (63%) of Gresham households live in Census tracts that combine a high gentrification risk and a high socioeconomic vulnerability level.

Exhibit 10 shows the percentage of population in Gresham in each of the groupings shown in Exhibit 8 and Exhibit 9.

- 76% of Gresham households reside within tracts identified as at high risk of gentrification (either in early or susceptible stages).
- 85% of households reside in tracts identified as at high socioeconomic risk of housing displacement.

Exhibit 10. Gresham Households Within Composite Gentrification & Socioeconomic Vulnerability Groups
Source; ACS 2010, 2015, 2019 (5-year), RLIS, ECONorthwest

Source: ACS 2010, 2015, 2019 (5-year), RLIS, ECONorthwest




## VII. IMPLICATIONS AND NEXT STEPS FOR THE HOUSING PRODUCTION STRATEGY

This analysis shows that substantial parts of Gresham are in early stages of gentrification or at-risk of gentrification, especially where there are higher concentrations of vulnerable populations. As neighborhoods that were once low-income begin to appear appealing to new residents, it is important to recognize that the people living in those neighborhoods may not have the same economic opportunities as the people moving in.

For the City of Gresham to validate what is happening on the ground, it is important to consider neighborhood characteristics and design community outreach to accurately represent what change looks like to the residents there now. Gresham may want to take steps to further understand potential for gentrification and potential displacement of vulnerable populations, such as conducting additional research about areas at risk for gentrification to better understand the demographic characteristics of people who may be displaced. This could include an analysis of whether existing and new regulated housing reduces gentrification risk.

# Appendix 20 Industrial/Commercial Lands Inventory Methodology

## INTRODUCTION

Industrial, commercial, and residential land use data was collected from October 1986 through January 1987 for the Gresham Planning area. The data was used to address both the Goal 9 and Metropolitan Housing Rule requirements for Periodic Review. The majority of information was obtained through field observations. Field information was recorded on a set of Multnomah County Assessor's quarter section maps, which are archived in the Community Development Division at Gresham City Hall. Statistical calculations are, in part, recorded on these maps, as well as in the Periodic Review data files.

Additional information for the inventories was obtained from the County Assessor's Parcel System, and a set of l" = 400' aerial photographs taken in June 1986. Information on residential lot development was also obtained from city records maintained on subdivision plats. Raw data from these sources is included in the Periodic Review data files.

Acreage measurements were calculated manually, using geometric formulas and assessor's area figures to estimate acreage or square footage for all parcels. Areas affected by slope constraints were estimated from contour spacing on l:24,000 USGS quadrangles; this information was overlaid on the quarter section maps in order to factor the development constraints in the calculations. Flood plain information was transferred to the quarter sections from existing City Code Maps. A combination of Gresham land use districts and Multnomah County zoning was used until the new designations were determined during Periodic Review.

## INDUSTRIAL AND COMMERCIAL LANDS

The following is a summary of the process used in compiling an inventory of vacant and underutilized industrial and commercial lands in the planning area.

All parcels within commercial or industrial land use districts were field checked to determine existing land use. Existing land uses were recorded directly on assessor's quarter section maps, using SIC categories and codes. Area calculations were then derived for each quarter section map according to land use type and location. From these figures, non-conforming uses and vacant lands were identified and summarized for the Goal 9 inventory requirement.

Once the Goal 9 lands were identified, the quarter section field maps were used in conjunction with natural and cultural resource inventories, flood plain and hillside constraint information, public facilities maps and CIP proposals to tabulate additional information required in the buildable lands inventory.

In addition, each site is evaluated in terms of serviceability. Serviceability includes streets, sanitary sewers, water, and access to storm sewers. Sites are considered serviceable when the service is

extended to or adjacent to the site and has the capacity to serve a development (for example, adequately size trunk lines, or adequate treatment facilities).

The inventory was updated to January 1, 1989, using design review records, and will be updated annually until the next Periodic Review.

## DETACHED RESIDENTIAL LANDS

The following is a summary of the methodology used in calculating the amount of developed and buildable detached housing lands within, the planning area.

A manual count of developed and vacant lots from subdivision plats was correlated to information from the county parcel system describing vacant subdivision parcels. Discrepancies between the two counts were then resolved using June 1986 aerial photography. Areas not included in the parcel system or subdivision plats were inventoried using aerial photography. This included all lands remaining designated for detached housing in city of county plans.

All parcels were inventoried on quarter section maps, and those greater than 14,000 square feet were noted. When parcels of this size were vacant or contained only one dwelling unit, they were considered to be underutilized, and capable of future development at one unit per 7,000 square feet.

To incorporate the impact of necessary road development on total developable acreage, a standard area of twenty percent was deducted from each buildable parcel's acreage before determining the potential future units. When converting the net acreage to potential units, the unit calculation is rounded down to the next whole number.

Special calculations were made for buildable lands in slope areas, flood plain, and within 275 feet of arterial streets as well as property with an Open Space designation. Under Gresham's 1980 Comprehensive Plan, lands with 15 to 35% slope are developable at one dwelling unit per 14,000 to 29,000 square feet; lands with 35% slope or greater may only be developed with a single unit per lot of record.

## ATTACHED RESIDENTIAL LANDS

The following is a summary of the methods used to inventory developed and buildable moderate and high-density residential lands in the Planning Area.

Field checks were made of all lands designated for attached housing, with observations recorded on quarter section maps. Developed parcels were identified, and the number of existing units was inventoried. Vacant or underdeveloped lands were evaluated according to development potential calculations. In most cases, the gross acreage of a site was divided by the maximum allowed density to determine development potential. Since slope constraints and flood plain only affect a few sites, these areas were simply deleted from the buildable lands inventory as was land with an Open Space designation. For areas in the MDR24 designation, the total parcel area is thus divided by 1,815 square feet to determine potential units. For areas in the HDR-60 district, the total parcel area is divided by

726 square feet. Because the OFR, MDR-l2, TD and CUC districts allow mixed uses, they were not included in the buildable attached housing lands for the Metropolitan Housing Rule.

# Appendix 21 Commercial and Industrial Land Use Inventory

## GRESHAM PERIODIC REVIEW

### Data Sources

The land use inventory was created using information from extensive field research, aerial photography, design review applications and building permit records. Beginning in 1989 a monitoring system will be used to maintain the inventory.

### Industrial and Commercial Lands

The 1986 Land use Inventory has been updated to address economic development factors required for periodic review; two summary products have been created:

- Economic Development Opportunities map showing individual sites
- Index to Individual Sites by number showing acreage, plan designation, public facilities deficiencies, arid natural and cultural site constraints.

The index evaluates commercial and industrial sites larger than one acre according to the availability of public facilities and the presence of development constraints.

Acreage is rounded to the nearest whole acre. Contiguous parcels of land that form a logical site for development and have the same plan designation have been inventoried together. Public Facility deficiencies are noted when adequate streets, sewers, water, and storm drainage are not provided to or adjacent to the site. When applicable, the percentage of the site affected by flood plain is included, as well as the percentage of the site estimated to have slopes greater than. 5% (although no site exceeds 15%). The presence of historic resources, natural resources or soil constraints is also noted, although the extent of natural resource arid soil constraints will not be determined until development is proposed for a site. The index also includes specific footnotes to facility and site constraint comments.

The index to sites is followed by a listing of legal descriptions for each site.

| | | | | Public Facilities | | | | Constraints | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Site | Location (& Legals) | Designation | Acreage | Street | Sewer | Water | Drain | %FP | %Slope | NR | H | SLS | UW |
| 1 | 185th/Marine to U.P. Line | HI | 125 | | N | | N1 | 80 | | R1 | | | W |
| 2 | 193rd/Marine to U.P. Line | LI | 115 | N | N | N | N1 | 40 | | R1 | | | W |
| 3 | 174th/Sandy to U.P. Line | BP | 21 | | N | N | N | | | | H1 | | |
| 4 | 186th/Sandy to U.P. Line | LI | 45 | | N | P | N | | | | | | |
| 5 | West 181st/Sandy to I-84 | BP | 150 | | N | N | N | | | | | | |
| 6 | East 181st/Sandy to I-84 | HI | 58 | | | | N | | | | | | |
| 7 | 185th North of R.R. | HI | 7 | | N | | N | | | R1 | | S1 | |
| 8 | 181st/Sandy, N to U.P. Line | EEC | 42 | | N | N | N | | | | | | |
| 9 | NW corner 181st/Sandy | GC | 2 | | N | N | N | | | | | | |
| 10 | SW corner 181st/Sandy | GC | 4 | | N | N | N | | | | | | |
| 11 | NE corner 181st/Sandy | GC | 3 | | N | | N | | | | | | |
| 12 | NW corner 181st/Sandy | GC | 2 | | N | | N | | | | | | |
| 13 | 197th South of Sandy | LI | 17 | | | | | | | | | | |

| | | | | Public Facilities | | | | Constraints | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Site | Location (& Legals) | Designation | Acreage | Street | Sewer | Water | Drain | %FP | %Slope | NR | H | SLS | UW |
| 14 | SW of 201st/Sandy | LI | 23 | | | | | | | | | | |
| 15 | NE of 201st/Sandy | LI | 8 | | | | | | | | | | |
| 16 | NE corner of 201st/Sandy | NC | 3 | | | | | | | | | | |
| 17 | SW corner of 181st/I-84 | GC | 9 | | | | | | | | | | |
| 18 | 178th/Sacramento/ I-84 | BP | 13 | | | | | | | | | | |
| 19 | 173rd/Sacramento | BP | 6 | | | | | | | | | | |
| 20 | SW corner 181st/San Rafael | BP | 12 | | | | | | | | | | |
| 21 | NW corner 181st/Halsey | GC | 4 | | | | | | | | | | |
| 22 | SE corner 162nd/Halsey | NC | 9 | | | | | | | | | | |
| 23 | SW corner 181st/Halsey | GC | 12 | | | | | | | | | | |
| 24 | 184th/Wilkes Rd south | LI | 7 | | | | | | | | | | |
| 25 | 184th/San Rafael north | LI | 12 | | | | | | | | | | |
| 26 | 186h/San Rafael south | HI | 4 | | | | | | | | | | |

| | | | | Public Facilities | | | | Constraints | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Site | Location (& Legals) | Designation | Acreage | Street | Sewer | Water | Drain | %FP | %Slope | NR | H | SLS | UW |
| 27 | 194th at San Rafael | HI | 9 | | | | | | | | | | |
| 28 | 193rd/Halsey/San Rafael | LI | 16 | | | | | | | | | | |
| 29 | 201st/San Rafael north | HI | 19 | | | | | | | | | | |
| 30 | 201st/San Rafael south | LI | 22 | | | | | | | | | | |
| 31 | SW corner 183rd/Halsey | GC | 2 | | | | | | | | | | |
| 32 | SE corner 183rd/Halsey | LI | 1 | | | | | | | | | | |
| 33 | North of Stark at 164th | GC | 2 | | P | P | | | | | | | |
| 34 | SW corner 181st/Davis | TD | 2 | | | | | | | | | | |
| 35 | North of Burnside at 182nd | TD | 1 | | | | | | | | | | |
| 36 | 183rd/Ash off 181st | TD | 1 | | | | | | | | | | |
| 37 | 183rd/Pine off 181st | TD | 2 | | | | | | | | | | |
| 38 | South Glisan/East 202nd | LI | 153 | | N2 | | | 30 | | R2 | | | |
| 39 | South of Glisan at 223rd | BP | 33 | | N2 | | | 5 | | | | | W |

| | | | | Public Facilities | | | | Constraints | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Site | Location (& Legals) | Designation | Acreage | Street | Sewer | Water | Drain | %FP | %Slope | NR | H | SLS | UW |
| 40 | SW corner 223rd/Glisan | BP | 5 | | | | | 20 | | | | | |
| 41 | SE corner 223rd/Glisan | BP | 42 | | | | | | 50 | | | | W |
| 42 | South Glisan/223rd to 242nd | LI | 271 | | N2 | | | | | | | | |
| 43 | East 223rd north of Stark | EEC | 5 | | | | | | | | | | |
| 44 | North Stark at Cleveland | OFR | 20 | | | | | | | | | | |
| 45 | 182nd south of Stark | GC | 1 | | | | | | | | | | |
| 46 | 194th/Stark | OFR | 1 | | | | | | | | | | |
| 47 | West 197th/North Burnside | OFR | 3 | | | | | | | | | | |
| 48 | SW corner 197th/Burnside | TD | 2 | | | | | | | | | | |
| 49 | 199th South of Burnside | HI | 3 | | | | | | | | | | |
| 50 | 202nd North of Burnside | LI | 3 | | | | | | | | | | |
| 51 | Birdsdale South of Burnside | BP | 3 | | | | | 90 | | | | | |

| | | | | Public Facilities | | | | Constraints | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Site | Location (& Legals) | Designation | Acreage | Street | Sewer | Water | Drain | %FP | %Slope | NR | H | SLS | UW |
| 52 | 195th/Division | LI | 2 | | | | | | | | | | |
| 53 | SW corner 223rd/Stark | NC | 7 | | | | | | | | | | |
| 54 | Fariss West of 223rd | OFR | 2 | | | | | | | | | | |
| 55 | SE corner 223rd/Stark | NC | 9 | | | | | | | | | | |
| 56 | SW corner 242nd/Stark | GC | 2 | | | | | | | | | | |
| 57 | SW corner Kane/Stark | GC | 6 | | | | | | | | | | |
| 58 | NW corner 182nd/Division | EEC | 1 | | | | | | | | | | |
| 59 | Near 190th/Grant | HI | 2 | | N | | | | | | | | |
| 60 | Deleted | | | | | | | | | | | | |
| 61 | 199th South of Burnside | HI | 5 | | N | | | | | | | | |
| 62 | 199th South of Burnside | HI | 5 | | | | | | | | | | |
| 63 | 199th South of Burnside | HI | 18 | | N | N | | 10 | | | | | |
| 64 | Birdsdale/16th | HI | 8 | | | | | 90 | | | | | |
| 65 | NW corner Birdsdale/Division | LI | 18 | | | | F | | 25 | | | | |

| | | | | Public Facilities | | | | Constraints | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Site | Location (& Legals) | Designation | Acreage | Street | Sewer | Water | Drain | %FP | %Slope | NR | H | SLS | UW |
| 66 | NE corner Birdsdale/Division | GC | 8 | | | | F | | 100 | | | | |
| 67 | Birdsdale/18th | BP | 10 | | | | F | 90 | | | | | |
| 68 | Wallula/Division/ Burnside | TD | 80 | | | N3 | F | | | | | | |
| 69 | Eastman South of Burnside | TD | 4 | | | | F | | | | | | |
| 70 | SE corner Burnside/Main | GC | 2 | | | | F | | | | | | |
| 71 | NW corner Burnside/Cleveland | EC | 2 | | | | F | | | | | | |
| 72 | NW corner Division/Cleveland | GC | 2 | | | | F | | | | | | |
| 73 | NE corner Division/Kane | GC | 3 | | | | | | | | | | |
| 74 | SE corner Division/Kane | GC | 4 | | | | | | | | | | |
| 75 | SW corner Division/181st | GC | 3 | | | | | | | | | | |
| 76 | South Division at 195th | EEC | 20 | | | | F | 60 | | R3 | | | |
| 77 | NW corner 195th/Division | EEC | 1 | | N | | F | | | | | | |

| | | | | Public Facilities | | | | Constraints | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Site | Location (& Legals) | Designation | Acreage | Street | Sewer | Water | Drain | %FP | %Slope | NR | H | SLS | UW |
| 78 | Powell/190th | LI | 66 | | | P | F | 5 | | R3 | | | |
| 79 | 1st/Victoria North | GC | 2 | | | | | | | | | | |
| 80 | 1st/Victoria South | GC | 2 | | | | | | | | | | |
| 81 | 8th/Victoria | GC | 1 | | | | | | | | | | |
| 82 | 8th/Migonette | GC | 1 | | | | | | | | | | |
| 83 | 8th/Earl West | GC | 2 | | | | | | | | | | |
| 84 | 8th/Earl East | GC | 1 | | | | | | | | | | |
| 85 | 3rd/Miller | GC | 2 | | | | | | | | | | |
| 86 | 7th/Main | CUC | 5 | | | | | | | | | | |
| 87 | 7th/Roberts | TD | 4 | | | | | | | | | | |
| 88 | 4th/Roberts | CUC | 1 | | | | | | | | | | |
| 89 | 3rd/Roberts | CUC | 1 | | | | | | | | | | |
| 90 | 5th/Kelly | TD | 4 | | | | | | | | | | |
| 91 | 8th/Kelly | TD | 3 | | | | F | | | | | | |
| 92 | 9th/Cleveland West | GC | 1 | | | | F | | | | | | |
| 93 | SW corner Burnside/Division | GC | 1 | | | | F | | | | | | |
| 94 | NE corner 8th/Linden | TD | 1 | | | | F | | | | | | |

| | | | | Public Facilities | | | | Constraints | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Site | Location (& Legals) | Designation | Acreage | Street | Sewer | Water | Drain | %FP | %Slope | NR | H | SLS | UW |
| 95 | 9th/Cleveland South | TD | 7 | | | | | | | | | | |
| 96 | 6th/Cleveland West | TD | 1 | | | | | | | | | | |
| 97 | 6th/Cleveland East | TD | 2 | | | | | | | | | | |
| 98 | SW corner Hogan/Burnside | TD | 11 | | | | | | | | | | |
| 99 | SE corner Hogan/Burnside | EC | 15 | | | | | | | | | | |
| 100 | 1st East of Burnside | EC | 8 | | | | | | | | | | |
| 101 | 176th/Powell | LI | 4 | | | | | | | | | | |
| 102 | NE corner 182nd/Powell | GC | 3 | | | | | | | | | | |
| 103 | NE of 190th/Powell | LI | 68 | | | P | | | | | | | |
| 104 | Evelyn/Powell | GC | 1 | | | | | | | R4 | | | |
| 105 | Liberty/Powell | GC | 1 | | | | | | | | | | |
| 106 | 3rd/Burnside | GC | 3 | | | | | | | | | | |
| 107 | 4th/Hogan | EEC | 5 | | | | | | | | | | |
| 108 | Powell/Burnside | GC | 1 | | | | | | | | | | |
| 109 | South of 182nd/Powell | BP | 5 | | | | | 5 | | | | | |
| 110 | South of 182nd/Powell | GC | 4 | | | | | | | | | | |

| | | | | Public Facilities | | | | Constraints | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Site | Location (& Legals) | Designation | Acreage | Street | Sewer | Water | Drain | %FP | %Slope | NR | H | SLS | UW |
| 111 | Powell/190th | GC | 15 | | | | | | | | | | |
| 112 | Powell/10th | GC | 7 | | | | | | | | | | |
| 113 | SW corner Roberts/Hogan | GC | 1 | | | | | | | | | | |
| 114 | West Hogan/South Roberts | LI | 16 | | P | P | | | | | | | W |
| 115 | SW corner Anderson/Orient | NC | 2 | | | | | | | | | | |
| 116 | SE corner Anderson/Orient | NC | 1 | | | | | | | | | | |
| 117 | SW corner Powell/282nd | NC | 1 | | | | | | | | | | |
| 118 | SE corner Hogan/Palmquist | HI | 57 | | P | P | | | | | | | W |
| 119 | NW corner Orient/Kane | GC | 1 | | | | | | | | | | |
| 120 | NW corner Palmquist/Kane | GC | 1 | | | | | | | | | | |
| 121 | SW corner Orient/Palmquist | GC | 4 | | | | | | | | | | |
| 122 | SE corner Lusted/282nd | NC | 1 | | N | | | | | | | | |
| 123 | | | | | | | | | | | | | |

| | | | | Public Facilities | | | | Constraints | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Site | Location (& Legals) | Designation | Acreage | Street | Sewer | Water | Drain | %FP | %Slope | NR | H | SLS | UW |
| 124 | | | | | | | | | | | | | |
| 125 | | | | | | | | | | | | | |

Index to Comments

P: Facility to Site is Proposed in 5-Year CIP.
N: Facility Not Available at Site.
N1: These properties are close to the Columbia and can pump stormwater directly into river.
N2: These properties will be served by a major on-site wastewater line that is not in the 5-Year CIP.
N3: Water lines on 212th are inadequate.
F: Significant storm drainage issues are identified in the Fairview Creek Basin.
R1: Columbia Slough NR site.
R2: Fujitsu Lakes NR site.
R3: Fairview Creek Wetland NR site.
R4: Johnson Creek Riparian Strip NR site.
H1: A Class I historic site is located on this parcel.
S1: These sites are severely to very severely limited by existence of poorly drained Rafton and Sauvie soils.
W: May contain wetlands that are affected by state or federal wetland regulations.

## Legal Descriptions of Commercial/Industrial Inventory

SITE 1
Section 20, 1N-3E
Tax Lots 17, 58, 59, 52, 38, 41, 24, 6
Section 29, 1N-3E
Tax Lot 6

SITE 2
Section 20, 1N-3E
Tax Lots 15, 60, 8
Section 29, 1N-3E
Tax Lot 89

SITE 3
Section 19, 1N-3E
Tax Lots 26, 47

SITE 4
Section 29, 1N-3E
Tax Lots 7, 22, 6, 89

SITE 5
Section 30, 1N-3E
Tax Lots 31, 88

SITE 6
Section 29, 1N-3E
Tax Lots 183, 87, 29, 50, 83, 55, 8, 125, 79

SITE 7
Section 20, 1N-3E
Tax Lot 53
Section 29, 1N-3E
Tax Lot 51

SITE 8
Section 30, 1N-3E
Tax Lots 32, 3
Section 29, 1N-3E
Tax Lots 51, 9

SITE 9
Section 30, 1N-3E
Tax Lot 44

SITE 10
Section 30, 1N-3E
Tax Lots 69, 81, 164, 83, 169

SITE 11
Section 29, 1N-3E
Tax Lot 61

SITE 12
Section 29, 1N-3E
Tax Lot 49

SITE 13
Section 29, 1N-3E
Boyd Industrial Plaza, Block 1, Lot 1, 2, 3, 4

Block 2, Lot 1, 2

SITE 14 Section 29, 1N-3E
Tax Lot 1

SITE 15 Section 29, 1N-3E
Tax Lot 53
Section 28, 1N-3E
Tax Lots 124, 48, 58, 17, 18, 19

SITE 16 Section 29, 1N-3E
Tax Lots 15, 62, 106, 77
Section 29, 1N-3E
NE corner of Tax Lot 1

SITE 17 Section 30, 1N-3E
Tax Lot 187
Banfield Corporate Park Tract “F”

SITE 18 Section 30, 1N-3E
Banfield Corporate Park Block 13, Lots 1, 2, 3, 4

SITE 19 Section 30, 1N-3E
Banfield Corporate Park Block 12, Lot 17

SITE 20 Section 30, 1N-3E
Banfield Corporate Park Block 10, Lot 1
Banfield Corporate Park Block 9

SITE 21 Section 30, 1N-3E
Tax Lot 151

SITE 22 Section 30, 1N-3E
Tax Lot 19

SITE 23 Section 30, 1N-3E
Multhauf Acres Blocks 9, 10, 11

SITE 24 Section 29, 1N-3E
Tax Lot 100

SITE 25 Section 29, 1N-3E
Tax Lot 72, 122

SITE 26 Section 29, 1N-3E
Tax Lot 114

SITE 27 Section 29, 1N-3E
San Rafael Industrial Park Blocks 1, 2

SITE 28 Section 29, 1N-3E
Tax Lot 43, 39, 41, 27

SITE 29 Section 29, 1N-3E
Tax Lots 47, 45, 44

SITE 30 Section 29, 1N-3E
Tax Lots 35, 81, 23, 108

SITE 31 Section 31, 1N-3E
Tax Lot 285, 267
Sommerwood Block 1, Lot 1

SITE 32 Sommerwood Block 4, Lot 2

SITE 33 Section 31, 1N-3E
Tax Lots 17, 18

SITE 34 Section 31, 1N-3E
Tax Lots 135, 14, 118, 117

SITE 35 Section 32, 1N-3E
Talbot Block 5, Lots 3, 4

SITE 36 Talbot Block 3, Lots 3, 4, 5, 8, 9, 10

SITE 37 Talbot Block 2, Lots 2, 3, 4, 5, 6, 7, 8, 9, 10

SITE 38 Section 33, 1N-3E
Tax Lot 45

SITE 39 Section 33, 1N-3E
Tax Lot 13
Newell Park Block 17, Lots 1, 2, 3, 4, 5
Clear Creek Business Park Block 1, Lots 1, 2

SITE 40 Section 33, 1N-3E
Clear Creek Business Park Block 2, Lot 1

SITE 41 Section 34, 1N-3E
Tax Lot 7

SITE 42 Section 34, 1N-3E
Tax Lots 6, 5, 36, 10, 76, 28, 59, 13, 14, 18

SITE 43 Section 34, 1N-3E
Tax Lot 16

SITE 44 Section 34, 1N-3E
Tax Lots 41, 128, 54, 11, 71, 12, 17

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|---|---|
| | Southern portion of Tax Lots 42, 43 |
| SITE 45 | Western portions of Eastwood Block 12 |
| SITE 46 | Section 34, 1N-3E<br>Tax Lot 2 |
| SITE 47 | Section 5, 1N-3E<br>Tax Lot 4, 3, 11<br>Eastwood, east ½ of Block 1 |
| SITE 48 | Eastwood, south ½ of Block 24 |
| SITE 49 | West Ruby Junction Blocks 27, 28, 29 |
| SITE 50 | Section 5, 1N-3E<br>Tax Lots 67, 32, 66, 53, 29 |
| SITE 51 | Section 4, 1S-3E<br>Tax Lots 16, 101, 217 |
| SITE 52 | Section 5, 1S-3E<br>Vance, easterly ½ of block 15 |
| SITE 53 | Section 4, 1S-3E<br>Tax Lots 99, 1, 155, 71, 78 |
| SITE 54 | Section 4, 1S-3E<br>Tax Lot 65 |
| SITE 55 | Section 3, 1S-3E<br>Tax Lots 104, 110, 109 |
| SITE 56 | Section 3, 1S-3E<br>Tax Lot 47 |
| SITE 57 | Section 2, 1S-3E<br>Eastern ½ of Tax Lot 72 |
| SITE 58 | Section 6, 1S-3E<br>Tax Lot 67 |
| SITE 59 | Section 5, 1S-3E<br>Tax Lot 1 |
| SITE 61 | Section 5, 1S-3E<br>Block 23, Tax Lot 7<br>Section 5, 1S-3E<br>Block 24, Tax Lot 8<br>West Ruby Junction Blocks 19, 20, 21, 22 |

| | |
|---|---|
| SITE 62 | West Ruby Junction Blocks 14, 15, 16, 17, 18<br>Tax Lot 1 of Block 15<br>Tax Lot 5 of Block 14 |
| SITE 63 | Section 5, 1S-3E<br>Tax Lot 76 |
| SITE 64 | Section 5, 1S-3E<br>Tax Lots 8, 18, 87<br>Ruby Junction Blocks 1, 2, 3, 4, 5, 6 |
| SITE 65 | Section 5, 1S-3E<br>Tax Lots 89, 97 10 |
| SITE 66 | Section 4, 1S-3E<br>Tax Lots 29, 144, 145, 146, 147, 148 |
| SITE 67 | Section 4, 1S-3E<br>Western Portion of Tax Lots 23, 24 |
| SITE 68 | Section 4, 1S-3E<br>Tax Lots 34, 130, 237, 30, 118, 38, 39, 40, 41, 42, 47, 48, 49, 53, 54, 55, 156 |
| SITE 69 | Section 4, 1S-3E<br>Tax Lots 45, 87, 75, 81, 85 |
| SITE 70 | Section 3, 1S-3E<br>Tax Lots 18, 79 |
| SITE 71 | Section 3, 1S-3E<br>Tax Lot 16 |
| SITE 72 | Section 3, 1S-3E<br>Cleveland Addition, Block 17, and Tax Lot 7 of Block 18 |
| SITE 73 | Section, 1S-3E<br>Tax Lot 18 and portion of 63 |
| SITE 74 | Section 2, 1S-3E<br>Tax Lot 98 |
| SITE 75 | Section 7, 1S-3E<br>Tax Lots 175, 74, 183, 349, 248, 502 |
| SITE 76 | Section 8, 1S-3E<br>Tax Lots 51, 98, 2, 130 |
| SITE 77 | Section 5, 1S-3E<br>Southeast corner of Vance Block 15 |

SITE 78 Section 8, 1S-3E
Tax Lots 11, 115, 24
Bryan Block 8, easterly portion of Tax Lot 1

SITE 79 Section 9, 1S-3E
Tax Lot 241
Section 10, 1S-3E
Tax Lot 471

SITE 80 Section 9, 1S-3E
Tax Lot 7

SITE 81 Section 10, 1S-3E
Tax Lots 189, 195, 198, 190, 178

SITE 82 Section 10, 1S-3E
Tax Lots 180, 185, 252, 186, 187, 181, 188
Clanahans Addition Block 3, Lots 3, 4, 5, 6, 7, 8, 9

SITE 83 Clanahans Addition Block 2, Lots 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16

SITE 84 Clanahans Addition Block 1, Lots 1, 5, 6, 7, 8, 9

SITE 85 Section 10, 1S-3E
Tax Lots 52, 51, 620, 618, 205, 212

SITE 86 Section 10, 1S-3E
Tax Lots, 244, 35, 34, 33, 32, 248, 249, 231, 30, 264, 197, 243, 28, 27, 305, 26

SITE 87 Section 10, 1S-3E
Tax Lots 599, 22

SITE 88 Section 10, 1S-3E
Mt. Hood Addition Block 3, Lots 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12

SITE 89 Section 10, 1S-3E
Mt. Hood Addition Block 2, Lots 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12

SITE 90 Section 10, 1S-3E
Tax Lot 227
Zenith Addition Block 1, Lots 1, 2, 3, 4, 5, 6, 7
Zenith Addition Block 2, Lots 1, 2, 3, 4, 5, 6, 7

SITE 91 Section 10, 1S-3E
Tax Lots 1, 2 of Cleveland Addition
Block 4, Lots 1, 2, 3, 4, 5, 6, 7
Block 5, Lots 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14

SITE 92 Section 10, 1S-3E

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|---|---|
| | Tax Lots 332, 473, 182 |
| SITE 93 | Bristol Block 3, Lots 7, 8, 9, 30, 31, 32 |
| SITE 94 | Section 10, 1S-3E<br>Tax Lots 284, 428 |
| SITE 95 | Section 10, 1S-3E<br>Tax Lot 18<br>Carlson's Addition Block 1, Lots 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16<br>Mildred's Addition Block 1, Lots 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14 |
| SITE 96 | Zenith Addition Blocks A, B, C, D |
| SITE 97 | Section 10, 1S-3E<br>Tax Lots 589, 194, 632, 554 |
| SITE 98 | Section 10, 1S-3E<br>Tax Lot 1 |
| SITE 99 | Section 11, 1S-3E<br>Tax Lot 2 of Daniel Acres, Blocks 1, 2<br>Tax Lots 1, 3, 4, 5, 10, 11, 12, 19 of Daniel Acres, Blocks 3, 4, 5, 6, 7, 8 |
| SITE 100 | Section 11, 1S-3E<br>Tax Lots 15, 16, 17 of Daniel Acres, Blocks 19, 22 |
| SITE 101 | Section 7, 1S-3E<br>Tax Lots 443, 444 |
| SITE 102 | Section 8, 1S-3E<br>Tax Lot 33 |
| SITE 103 | Section 8, 1S-3E<br>Tax Lots 21, 117, 39, 90 |
| SITE 104 | Section 10, 1S-3E<br>Tax Lot 1, 289, 324 |
| SITE 105 | Shoemakers Addition<br>Tax Lot 5 of Block 5<br>Tax Lot 1 of Block 6<br>Tax Lot 1 of Block 7 |
| SITE 106 | Section 11, 1S-3E<br>Tax Lot 179 |
| SITE 107 | Section 11, 1S-3E<br>Tax Lots 55, 70 |

SITE 108 Section 11, 1S-3E
Southerly portion of Tax Lot 51

SITE 109 Section 18, 1S-3E
Tax Lots 2, 62, 73

SITE 110 Section 18, 1S-3E
Tax Lot 57

SITE 111 Section 17, 1S-3E
Tax Lots 162, 89, 91
Cedarville Block 5, Lots 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11
Cedarville Block 6, Lots 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17
Cedarville Block 7, Lots 1, 2, 3, 4, 5, 6, 7, 8, 9, 10
Cedarville Block 8

SITE 112 Section 17, 1S-3E
Tax Lot 74
Section 8, 1S-3E
Southern Portion of Tax Lot 24
Cedarville Block 2, Lots 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16…19, 20
Cedarville Block 1, Lots 1, 2, 3, 4, 5, 6, 7, 8, 9, 10

SITE 113 Section 15, 1S-3E
Tax Lot 113

SITE 114 Section 15, 1S-3E
Tax Lots 86, 22, 132

SITE 115 Section 13, 1S-3E
Tax Lot 160

SITE 116 Section 13, 1S-3E
Tax Lot 72

SITE 117 Section 13, 1S-3E
Tax Lot 4

SITE 118 Section 14, 1S-3E
Tax Lots 24, 75, 76, 82, 78, 26, 65, 199

SITE 119 Section 14, 1S-3E
TAX Lots 154, 7

SITE 120 Section 14, 1S-3E
Tax Lots 172, 137, 83, 63

SITE 121 Section 14, 1S-3E

| | |
|---|---|
| | Tax Lots 164, 106<br>Northern portion of Tax Lot 12 |
| SITE 122 | Section 18, 1S-3E<br>Tax Lots 40, 57 |

# Appendix 22 Baseline and High Growth Employment Forecast Methodology

## BASELINE EMPLOYMENT FORECAST METHODOLOGY

Employment forecasts for the Portland metropolitan area and Multnomah County were derived from Metropolitan Service District (METRO) forecasts using the following methodology:

1. Forecasts to the years 1990 and 2005 for Multnomah County and the census tracts within the urbanized East Multnomah County study area were provided by METRO for the categories retail and non-retail. METRO forecasts for the entire metro area were provided for categories similar to SIC divisions. For some manufacturing categories forecasts were provided in a form disaggregated into 2-digit groups. (Note: The Portland metropolitan area is defined as the four counties of Multnomah, Clackamas and Washington in Oregon and Clark in Washington).
2. For the baseline scenario these forecasts were further disaggregated as necessary to allocate projected employment among the four land use codes of heavy/moderate industrial, light industrial, commercial office/service and commerce retail.

   A shift/share technique was applied to OED employment data for the Tri-County and Multnomah County to disaggregate the METRO forecasts for the years 1990 and 2005. This technique involves:

   a. Determination of Multnomah County's share of Tri-County employment in 1979 and 1985 using Oregon Employment Division (OED) employment files.
   b. Calculation of the "shift" in Multnomah County's shares between 1979 and 1985.
   c. Forecasting future shifts to 1990 and 2005 in Multnomah County's employment shares, based on historical experience.

   It is noted that 1979 was used as a base year in this shift/share analysis, since this was a year of high. employment for Multnomah County prior to the beginning of the last recession.
3. Forecasts of Multnomah County shares of Tri-County derived from OED data (resulting from step 2 above) were applied to the 1990 and 2005 Metropolitan Service District forecasts for the Portland metropolitan area (adjusted for Clark County employment). This step results in a disaggregation of the 1990 and 2005 METRO employment forecast for Multnomah County to more detailed categories necessary for allocation to four land use types.
4. For the urbanized East Multnomah County area census tract data was allocated for tracts not completely within the study area based on a review of existing businesses in the split tracts. Shifts in East Multnomah County employment as a share of Multnomah County from 1980 and 1985 (using METRO data) were used to forecast 1990 and 2005 employment as a share of Multnomah County in the disaggregated categories.

5. The 1990 and 2005 category forecasts (resulting from step 3 and 4 above) for both Multnomah County and East Multnomah County were then adjusted to assure consistency with the METRO forecast totals.

### *High Employment Forecast Methodology*

The high growth scenario reflecting success at recruiting industries as targeted by Pacific Power, the Oregon Economic Development Department and Karen Myers and Associates. This scenario also applies the direct, results of OED data shift/share analysis between 1979 and 1985 when these result in forecast employment levels above the METRO control totals.

The high growth scenario puts urbanized East Multnomah County's employment at 125% of the baseline situation by 2005.

Under the high growth scenario, the influence of pursuing a target industry strategy would be felt. Over a twenty-year period, the light industry category would experience additional growth more than S times that of the baseline case due to recruitment of target or growth industries. Heavy/moderate industries could increase a factor of 3, and commercial office/services could gain an additional 68% above the baseline case.

In the short term through 1990, the difference between high growth and baseline conditions for light industry is even greater. under baseline conditions, virtually no net employment gains are expected. With high growth, up to 2,600 additional jobs could be added. Achieving this level of new activity would probably require, among other things, reactivation of both the delayed Tektronix and Fujitsu projects.

For light industrial, the high scenario additionally assumes that Multnomah County will be able to capture 25% of metropolitan area electrical manufacturing employment and that urbanized East Multnomah County can achieve a 50% share of Multnomah County. This compares to current 1985 employment shares for Multnomah County of 12% of METRO and for urbanized East Multnomah County of 4% of Multnomah County.

The high retail employment forecast is based on a correlation of retail employment to all other employment. There was a 99% correlation between changes in retail employment per population and changes in all other employment per population. In the 1985-2005 period, high growth could mean that retail jobs account for 37% of total employment growth.

For self-employed the high forecast was based on the forecast high growth scenario for the other employment categories weighted by the self employment proportion in that category.

# Appendix 23 Gresham's Share of Study Area's Employment Growth

The City of Gresham's share of the study area's employment growth was disaggregated from employment forecast data contained in METRO's 1985 Regional Population and Emp1oyment Forecast to 1990 and 2005. The METRO forecast contains employment forecasts on a census tract basis. The estimate of Gresham's employment share was based on a comparison between employment totals for all census tracts within the study area and the census tracts which are located within the City of Gresham jurisdictional boundaries. The census tracts which lie within the Gresham city limits contain 70% of the forecasted study area's employment growth through the year 2005.

# Appendix 24 Assignment of Employment Categories by Standard Industrial Codes to Land Use Types

Source: The White Company

| SIC Code | Description | Land Use Category |
|---|---|---|
| 1-9 | Agriculture/Forest/Fishing | N/A |
| 10-14 | Mining | HMI |
| **Construction** | | |
| 15 | Building Construction | HMI |
| 16 | Other Construction | HMI |
| 17 | Special Tract Contractors | LI |
| **Manufacturing** | | |
| 20 | Food/Kindred Products | LI |
| 22 | Textile Mill Products | HMI |
| 23 | Apparel/Fabric Products | HMI |
| 24 | Lumber/Wood Products | HMI |
| 25 | Furniture and Fixtures | LI |
| 26 | Paper and Applied Products | HMI |
| 27 | Printing and Publishing | LI |
| 28 | Chemical Products | HMI |
| 29 | Petroleum Refining | HMI |
| 30 | Rubber/Plastics | HMI |
| 31 | Leather Products | LI |
| 32 | Stone/Clay/Glass/Concrete | HMI |
| 33 | Primary Metal Products | HMI |
| 34 | Fabricated Metal Products | HMI |
| 35 | Machinery, not electrical | HMI |
| 36 | Electrical/Electronic | LI |
| 37 | Transportation Equipment | HMI |
| 38 | Measuring Equipment | LI |
| 39 | Miscellaneous Products | LI |
| **Transportation/Comm/Util.** | | |
| 40 | Railroad Transportation | HMI |
| 41 | Highway Transportation | HMI |

| SIC Code | Description | Land Use Category |
|---|---|---|
| 42 | Motor Freight Transport | HMI |
| 43 | U.S. Postal Service | OS |
| 44 | Water Transportation | HMI |
| 45 | Air Transportation | HMI |
| 46 | Pipelines, not gas | LI |
| 47 | Transportation Services | LI |
| 48 pt. | Communication, except 4811 | OS |
| 49 | Electric/Gas/Sanitary | LI |
| 50-51 | Wholesale Trade | LI |
| 52-59 | Retail Trade | R |
| 60-67 | Finance/Insurance/Real Estate | OS |
| 70-89 pt. | Services, ex part of 76, 88 | OS |
| 7623 | Refrig/Air Cond Serv/Repair | LI |
| 7692 | Welding repair | LI |
| 7694 | Armature rewinding shops | LI |
| 7699 | Repair shops/services, NEC | LI |
| 88 | Private households | N/A |
| 91-97 | Public Administration | OS |

HMI – Heavy/Moderate Industrial
LI – Light Industrial
OS – Commercial Office/Service
R – Commercial Retail
N/A – Not Applicable
Prepared by: Economic Development Services, May 1987

# Appendix 25 Employment Density Calculations

Economic Development Services reviewed a variety of sources for employment density data. With the exception of the heavy/moderate industrial and light industrial subcategories of manufacturing, those shown in Table A are directly from METRO.

For the industrial subcategories, the primary sources for employment densities besides METRO were the Oregon Economic Development Department, Growth Industries Survey, completed in December 1986, and a review of recent Portland metropolitan are investments by Economic Development Services in June 1987.

Heavy/moderate industrial firms sampled had an average of five employees per acre. Eight employees per acre resulted from a weighted average of firms, in the growth industries survey. The figure of eight was more consistent with our review of other sources.

For the light industrial category, our review of recent developments showed that the average was seventeen employees per acre. In this sample the range was from two to 55.

For comparison, light industrial employers targeted as growth industries and surveyed nationwide by the Oregon Economic Development Department had an average of ten employees per acre (weighted by average acres). Given the current turndown in the electronics industry, it is likely that many of these targeted firms will be less bullish in their land acre as being more indicative of realistic conditions for future development.

The employment density figures attempt to exclude land which is acquired for future potential expansion but not yet developed. Consequently, our estimates of future absorption are less than what the pattern of industrial land purchases in the early 1980s would indicate.

| SIC Code | Description | Land Use | Employees/Acre |
|---|---|---|---|
| 36, 38 | Electrical Manu. | LI | 25 |
| 20-39 | Manufacturing, except electrical | | 13 |
| | | HMI | 8 |
| | | LI | 15 |
| 10-17 | Construction & Mining | HMI/LI | 35 |
| 50-51 | Wholesale Trade | LI | 10 |
| 40-49 | Transportation/Comm./Utilities | HMI/LI/OS | 141 |
| 70-89 | Services | OS | 101 |
| 52-59 | Retail Trade | R | 20 |
| 60-67 | Finance/Insurance/Real Estate | OS | 48 |
| 91-97 | Government | OS | 85 |

Notes: The manufacturing, except electrical category was assigned 13 employees per acre by METRO. Economic Development Services subcategorized by land uses to eight employees per acre for heavy/moderate industrial and 15 employees per acre for light industrial based on review of a sample of 1983 to early 1987 Portland metropolitan area investments and on the Oregon Economic Development Department, Growth Industries Survey, December 1986.

Prepared by: Economic Development Services, June 1987.

Source: Metropolitan Service District.

# Appendix 26 Method for Calculation of Needed Number of Industrial and Commercial Sites

To calculate the number of sites needed to accommodate the anticipated amount of industrial and commercial development the following methodology was used:

- The most frequent size for an industrial and commercial firm was derived from the 1987 East County Business Survey. The range of sizes of industrial firms are between 10,001 and 25,000 square feet and an average size of 17,500 square feet. The range of sizes of commercial firms is between 2,001 and 5,000 square feet or an average size of 3,500 square feet.
- In order to calculate the size of site to accommodate the average size industrial and commercial firms the parking and circulation standards and the required landscaping standards from the Gresham Community Development Plan were applied.
- The forecasted amount of industrial and commercial lands was then divided by average size commercial and industrial firm.

# Appendix 27

Volume 1, Appendix 27 is repealed by Council Order No. CO695.

# Appendix 28 Economic Development Opportunities Map

The Economic Development Opportunities Map is reproduced as a separate document. The map is a comprehensive inventory of commercial and industrial land.

# Appendix 29 Thermal Pollution

## SUMMARIZED TEMPERATURES IN JOHNSON CREEK 1970-1975*

| Sampling Location | Flow | Degrees Centigrade | Degrees Fahrenheit |
|---|---|---|---|
| Mouth | High | 5.5-16.0 | 41.9-60.8 |
| | Low | 11.5-15.0 | 52.7-59.0 |
| Ochoco Avenue | H | 5.5-11.0 | 41.9-51.8 |
| | L | 12.0-19.0 | 53.6-66.2 |
| Crystal Spgs. Cr. | H | 7.5-10.0 | 45.5-50.0 |
| | L | 12.0-15.0 | 53.6-59.0 |
| Johnson Park | H | 5.0-16.0 | 41.0-60.8 |
| | L | 11.5-15.0 | 52.7-59.0 |
| S.E. 45th | H | 5.0-16.0 | 41.0-60.8 |
| | L | 11.5-14.0 | 52.7-57.2 |
| Stanley Avenue | H | 5.0-17.0 | 41.0-62.6 |
| | L | 11.5-14.0 | 52.7-57.2 |
| Luther Road | H | 4.5-18.0 | 40.1-64.4 |
| | L | 11.0-19.0 | 51.8-66.2 |
| S.E. 92nd | H | 4.0-20.0 | 39.2-68.0 |
| | L | 12.0-16.0 | 53.6-60.8 |
| S.E. 100th | H | 4.5-17.0 | 40.1-62.6 |
| | L | 16.5-27.0 | 61.7-80.6 |
| S.E. 110th | H | 4.5-17.0 | 40.1-62.6 |
| | L | 11.5-21.0 | 52.7-69.8 |
| S.E. 122nd | H | 4.5-17.0 | 40.1-62.6 |
| | L | 10.5-18.0 | 50.9-64.4 |
| Foster Road | H | 4.5-17.0 | 40.1-62.6 |
| | L | 10.0-17.0 | 50.0-62.6 |
| S.E. 190th | H | 4.5-17.0 | 40.1-62.6 |
| | L | 11.5-16.5 | 52.7-61.7 |
| Main St., Gresham | H | 4.5-17.0 | 40.1-62.6 |
| | L | 15.5-21.0 | 59.9-69.8 |
| Regner Road | H | 4.5-17.0 | 40.1-62.6 |
| | L | 11.5-18.0 | 52.7-64.4 |

| Sampling Location | Flow | Degrees Centigrade | Degrees Fahrenheit |
|---|---|---|---|
| Hogan Road | H | 9.5-16.0 | 49.1-60.8 |
| | L | 4.5-17.0 | 40.1-62.6 |

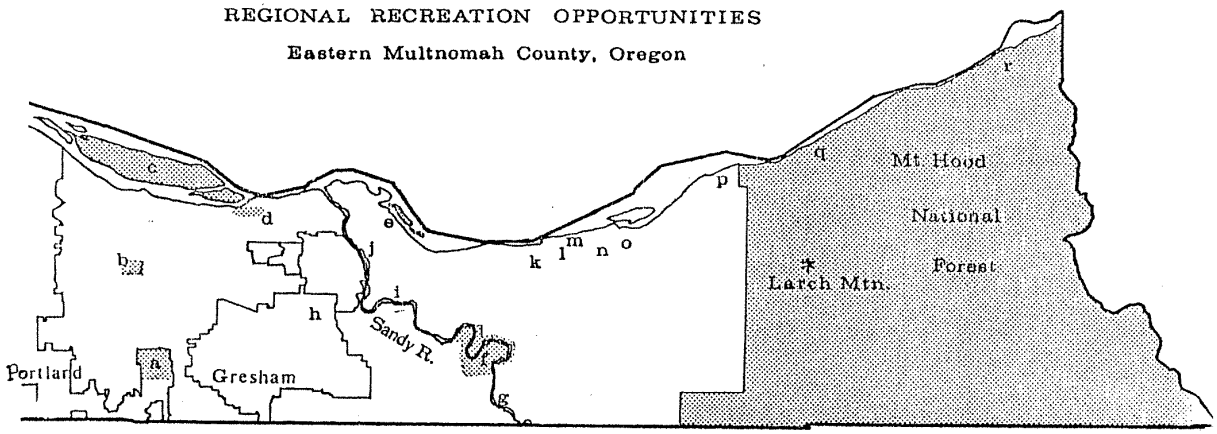
*Table is derived from "Summarized Water Quality Data – Johnson Creek" Table P.22 in Water Quality in Johnson Creek 1970-1975; State of Oregon Department of Environmental Quality; December 1975.

# Appendix 30 Regional Recreation Opportunities

APPENDIX 30

REGIONAL RECREATION OPPORTUNITIES

Eastern Multnomah County, Oregon




City and County Recreation Areas

a Powell Butte (Portland)
b Glendoveer Golf
c Government Island
d Blue Lake Park
e Flag and Gary Islands
f Oxbow Park
g Indian John Island
h Gresham Golf

State Parks

i Dabney
j Lewis and Clark
k Portland Women's Forum
l Crown Point
m Rooster Rock
n Talbot
o Shepperd's Dell
p Benson
q Ainsworth
r John Yeon

# Appendix 31 City Park System – July 15, 1988

| Name | Size (Acres) | Status |
|---|---|---|
| **Mini-Parks** | | |
| Hollybrook Park | 2.4 | Partially developed |
| Davis Park | 2.6 | Undeveloped |
| **TOTAL MINI-PARKS** | **5.0** | |
| **Neighborhood Parks** | | |
| Aspen Highlands Park | 4.0 | Developed |
| Bella Vista | 8.3 | Developed |
| Butler Creek Park | 3.5 | Developed |
| Columbia View Park | 9.2 | Undeveloped |
| Hall Park | 3.9 | Developed |
| Kane Road Park | 9.5 | Developed |
| Kirk Park | 5.7 | Partially developed |
| North Gresham Park | 12.5 | Partially developed |
| Pat Pfeifer Barrier Free Park | 4.8 | Partially developed |
| Rockwood Central Park | 9.4 | Partially developed |
| South Rockwood Park | 4.2 | Partially developed |
| Thom Park | 4.0 | Developed |
| **TOTAL NEIGHBORHOOD PARKS** | **78.0** | |
| **Community Parks** | | |
| Main City Park | 16.8 | Developed |
| Red Sunset Park | 15.3 | Undeveloped |
| **TOTAL COMMUNITY PARKS** | **32.1** | |
| **Greenbelts/Open Space** | | |
| Kelly Creek Open Space | 8.9 | Undeveloped |
| Regner Road Open Space | 8.7 | Undeveloped |
| Walters Hill Open Space | 27.0 | Undeveloped |
| Johnson Creek Open Space | 28.9 | Undeveloped |
| Butler Creek Open Space | 23.6 | Partially developed |
| Hunters Highland Open Space | 11.8 | Undeveloped |
| Miscellaneous Areas | 2.5 | Undeveloped |
| **TOTAL GREENBELTS/OPEN SPACE** | **111.4** | |
| **TOTAL CITY PARKS/OPEN SPACE** | **226.5** | |

# Appendix 32 Park, Open Space, and Recreation Land Acreage

| | Acreage |
|---|---|
| City Park System | 115.1 |
| Dedicated Open Ares & Greenways | 111.4 |
| Private Common Areas (not including condominiums) | 15.9 |
| Golf Courses (Private) | 105.98 |
| Reservoir Sites | 25.82 |
| Cemeteries | 20.22 |
| **TOTAL*** | **394.42** |

*Does not include school sites or facilities

# Appendix 33 and 34

The following Volume I Appendices are repealed by Ordinance No. 1551, adopting the Gresham Transportation System Plan (as Volume 4 of the Community Development Plan) effective 8-21-02.

**Appendix 33 – Existing Gresham Area Bus Service (1986-1988)**

**Appendix 34 – Weekday Bus Service**

# Appendix 35 Sign Bibliography

Sign Studies used and available during Periodic Review:

- American Planning Association, Aesthetics and Land-Use Controls, PAS Report 399, December 1986.
- American Planning Association, The Mechanics of Sign Control, PAS Report 354, October 1980.
- Edwald, William R., & Mandelker, Daniel R., Street Graphics and the Law, The American Society of Landscape Architects Foundation & The American Planning Association, 1988.
- International City Management Association, Sign Ordinances, MIS Report Volume 17/Number 8, August 1985.
- Nasar, Jack L., The effect of Sign Complexity and Coherence on the Perceived Quality of Retail Scenes, APA Journal, Autumn 1987.
- Reed, Charles, AICP, A Complete Checklist for Writing a Signs Chapter in Your Zoning Ordinance, The Zoning Report for Planning and Zoning Professionals, ISSN 0748-0083, 2/85.

Also Referenced:

- American Planning Association, The Language of Zoning, PAS Report 322, November 1976.
- Rohse, Mitch, Land-Use Planning in Oregon, Oregon State University Press.

Sign Industry Documents:

- Electronic Display Systems, Promotional Brochure on Electronic Message Centers.
- Institute of Signage Research, San Diego Study, Signage Quarterly, Volume 1, Number 1, 1978.
- National Electric Sign Association, Guideline Sign Code.
- National Electric Sign Association, Electric Awning Signs, Guideline Code.
- Neon Products, Ltd., Uniform Sign Code.

The following sign ordinances are available for review:

- City of Beaverton 3/86
- City of Beaverton (old) 3/71
- City of Eugene 7/86
- City of Lake Oswego 7/85
- City of Portland (Rewrite Project) 2/86
- City of Portland (old) 1/83

- City of Salem 1/85
- City of San Diego 6/86
- City of Sandy 8/82
- City of Seattle 7/86
- City of Tigard 1/83
- City of Tualatin 12/82
- Washington County 5/85

Also see sign studies The Mechanics of Sign Control and MIS Report – Sign Ordinances for additional sample ordinances.

# Appendix 36 Noise Source Inventory

## UNRESOLVED NOISE COMPLAINTS RECEIVED BY THE DEQ FOR GRESHAM SINCE 1987

- Technical Fabricators
  620-A N.E. Cleveland Street
  Gresham, Oregon
- Portland Traction Company
  Southeast 188th and Southeast Powell
  Portland, Oregon
- Rogers Construction Quarry
  Southeast 195th and Yamhill Street
  Gresham, Oregon