PRC GRESHAM PARKS REPORT

Demographic &
Parks Access
Analyses

PORTLAND STATE UNIVERSITY
POPULATION RESEARCH CENTER

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Ron Bateman
Charles Ciecko
Eric Carter
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and Gresham City Council:

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Mike Bennett
Richard Strathern
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INTRODUCTION

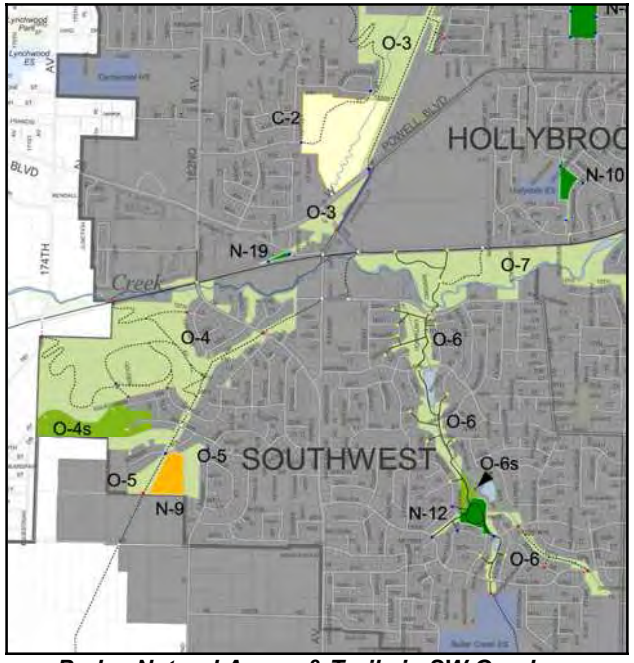
The City of Gresham Parks & Recreation Division (GPRD) requested that the Portland State University Population Research Center (PRC) prepare a demographic profile, population forecasts, and parks and natural areas access analyses ('parks access') for the City of Gresham and its Springwater and Pleasant Valley planning areas. The study will inform GPRD's *Parks, Natural Areas, and Trails Comprehensive Planning* effort, currently underway.

The *demographic profile* discusses current conditions and likely future trends for population, housing, and households, with a focus on age and race/ethnicity. It includes many demographic map 'layers', which in Geographic Information Systems (GIS) software can be overlayed on parks access layers.

Year-2020 population forecasts are prepared by age and sex for the City of Gresham and, for the general population, by Gresham's neighborhoods, Pleasant Valley, and Springwater.

Parks access analyses focus on GPRD parkland typologies: Neighborhood and Community parks, Natural Areas (Open Space), and Trails. One model includes versions for existing and proposed conditions, while the other two build on the first, adding an analysis of parkland quality, proximity to schools, and proximity to parks outside Gresham. Model summaries and other parks access data, by neighborhood, are provided in an appendix.

The report is divided into two main sections: Section I includes the demographic profile and population forecasts. Section II covers the parks access analyses. Together, both sections hold insights and analytical tools with which the City of Gresham can move forward confidently in its *Comprehensive Planning* effort.



Parks, Natural Areas, & Trails in SW Gresham

Butler Creek Neighborhood Park, Greenway, & Trails

SECTION I.
DEMOGRAPHIC PROFILE AND POPULATION FORECASTS

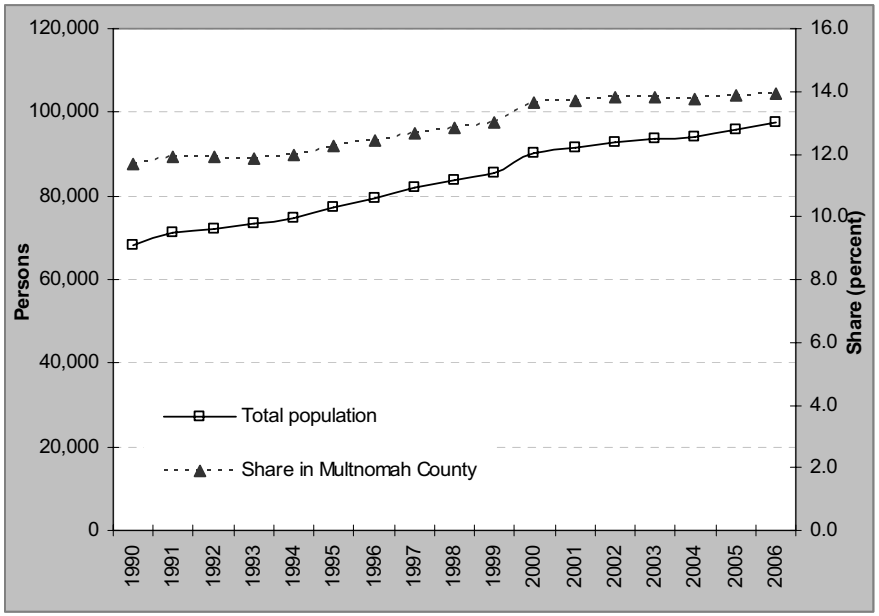
Section I analyzes existing demographic conditions and likely future trends for the City of Gresham in support of its on-going parks, open space, and trails planning process. The section consists of two parts. The first part looks at current and recent historical trends in population distribution, age composition, racial-ethnic composition, housing stock, and household characteristics for Gresham as a whole. This part relies on data from the 1990 and 2000 Censuses, the 2000-2005 American Community Surveys, and other secondary data. The second part presents population forecasts for Gresham and its neighborhoods. These have been prepared in 5-year intervals through the year 2020. City population forecasts are developed by 5-year age groups and by gender. Neighborhood-level forecasts, including forecasts for the Pleasant Valley and Springwater communities, are produced for the general population only.

PART I. DEMOGRAPHIC PROFILE

POPULATION

Gresham has grown at a steady pace since 1990, reaching 98,072 persons as of January 1, 2006 (considered 'current' throughout this study). Between 1990 and 2006, it added 29,837 persons, with an average annual growth rate of 2.8 percent. During the period, Gresham grew twice as fast as Multnomah County, the latter at 1.3 percent per year, and faster than the 3-county Portland-Metro area (2.2 percent per year). By 2006 Gresham held 13.9 percent of Multnomah County's population and 6.2 percent of the Portland-Metro area population, compared with 11.7 percent and 5.8 percent, respectively, in 1990. Growth was faster during the 90s, when Gresham grew, on average, by 3.2 percent per year (2,200 persons per year). Since then growth has slowed to 1.6 percent per year (1,430 persons per year). Figure 1-1 shows population growth trends since 1990 for the City of Gresham.[1]

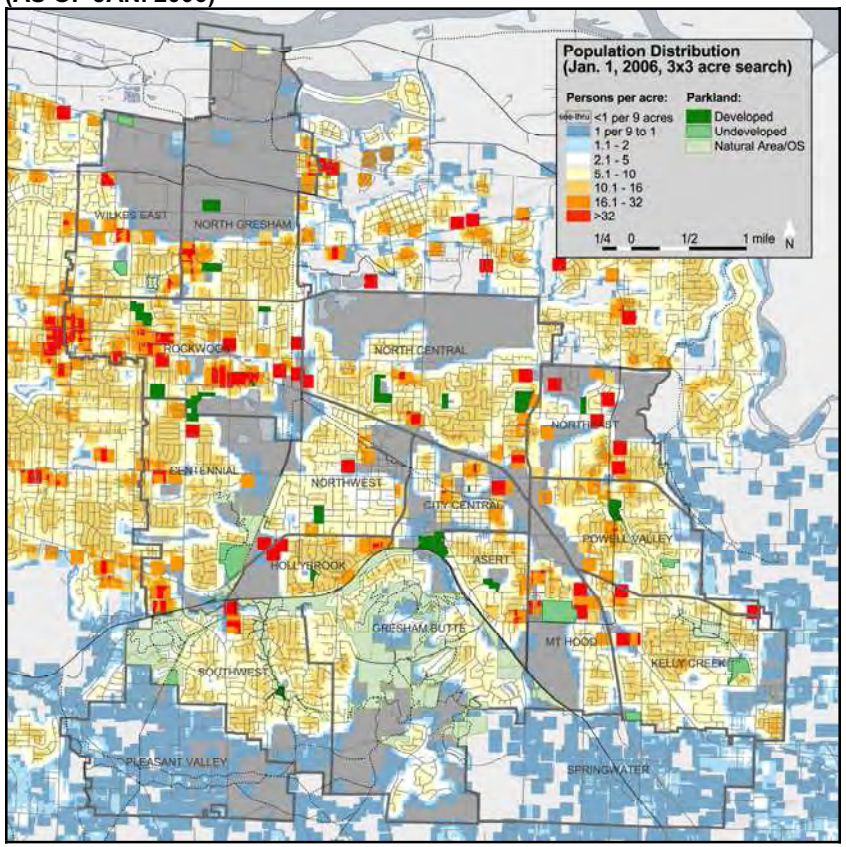
FIGURE 1-1. POPULATION GROWTH TRENDS 1990-2006: GRESHAM & ITS SHARE OF MULTNOMAH COUNTY



Source: "July 1, 2006 Population Estimates for Oregon," Population Research Center

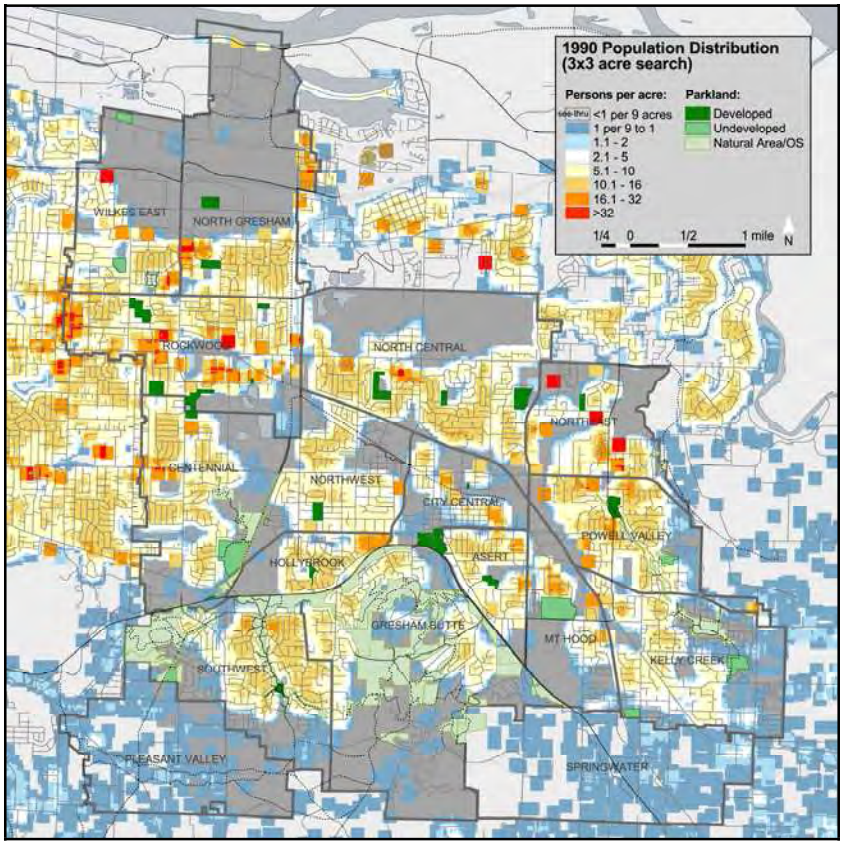
Gresham's growth has been fueled by both *migration* and natural increase (*births*). Since 1990, more people have moved into Gresham than out of it, producing positive net-migration numbers.[2] Approximately 16,460 more persons moved into Gresham than out of it between 1990 and 2000, adding almost a quarter (24.1%) to its 1990 population. Since 2000, growth due to migration has slowed: through 2005, net-migration was approximately 4,250 persons, or 4.7 percent of Gresham's 2000 population. *Births* grew from 1,100 per year in 1990 to approximately 1,550 per year by 2004.[3] During the 90s, births grew slower than total population, with an average rate of 2.9 percent per year (versus 3.2%). But between 2000 and 2004, births grew faster than total population, at 2.2 percent per year. This contrasts with births in Multnomah County and the Portland-Metro area, where total births declined by 1.8 and 0.3 percent, respectively, between 2000 and 2004.[4] Growth in births to Hispanic mothers has been the primary factor contributing to Gresham's increasing births.

MAP 1-1. POPULATION DISTRIBUTION IN & AROUND GRESHAM (AS OF JAN. 2006)



Maps 1-1 and 1-2 show population distribution in the Gresham area. Map 1-1 shows current conditions - as of January 1, 2006 - while Map 1-2 shows 1990 conditions. Both maps use the same legend to facilitate comparison. The maps rely on taxlot-level housing unit data and primarily Census block-level demographic rates, 'smoothed' using a 'focal' or 'search window' 3 x 3 acres in size. The result is the number of people per acre averaged within an area 3 x 3 acres square. All density-type distribution maps in this report use these same parameters, which, among other things, tend to bring out the distribution of housing types. Smooth areas tend to be single-family, while orange or red squares tend to be multi-family (or sometimes mobile home parks).

MAP 1-2. 1990 POPULATION DISTRIBUTION IN & AROUND GRESHAM



The maps show that Gresham's population has grown considerably over the period, in both magnitude (colors towards red) and spatial coverage (i.e. the pattern spreads out over a larger area). For example, the Rockwood area has seen considerable population growth (magnitude) during the period, with darker oranges and reds. Outer Southwest, Powell Valley, and Kelly Creek are a few obvious locations where few people existed in 1990 (fewer than 1 person per 9 acres, grey, see-through class in the legend), but by 2006 were fully developed (smooth, yellow and mild orange). In GIS, these and other 'data layers' can be overlayed on parks access layers presented in section two, and queries for specified criteria can be made.

AGE

Births, migration, and other demographic events change the population composition of a given area. Figures 1-2a and b, 'population pyramids', are one way to show composition and change. Figure 1-2a is a pyramid for Gresham's population, by age and sex in 1990, superimposed over a pyramid for 2005.[5] Growth is obvious by the size of the bars: every 5-year age group grew, a result of positive net-migration and births. But growth is particularly pronounced among children (0 to 19 years-old), young adults (20 to 29 years-old), and mature adults (45 to 64 years-old), resulting in 'squaring-out' of the pyramid. Growth among 40 to 59 year-olds is mainly due to aging-in-place of the baby-boom cohort (born 1946-1964). 75 year-olds and above, particularly women, have increased as well, reflecting increased longevity and positive net-migration. Figure 2b is a pyramid for 2000, also superimposed over a pyramid for 2005. Changes are less apparent, as the time period is much shorter and some growth patterns have changed; however, it is apparent that those age 50 to 64 (older baby-boomers) and young parents (age 25 to 34) with school-age children have grown more than other groups.

Overall, Gresham remains younger than Multnomah County or Portland-Metro populations (Table 1-1). Children made up over 30 percent of Gresham's population in 1990, 2000, and 2005, their share of total population 3 to 5 percentage-points larger than shares in the County or Portland-Metro area. In addition, seniors as a share of Gresham's population have remained smaller than County or Portland-Metro senior populations.

TABLE 1-1. POPULATION BY AGE, GRESHAM, MULTNOMAH COUNTY, AND PORTLAND-METRO AREA, 1990-2005

	1990			2000			2005		
	Gresham	Multnomah	Metro	Gresham	Multnomah	Metro	Gresham	Multnomah	Metro
Pop.>>	68,235	583,887	1,174,291	90,204	660,486	1,444,219	98,072	672,906	1,541,170
Age	*percent of total population*			*percent of total population*			*percent of total population*		
0-19	30.2	25.7	27.5	30.7	25.0	27.2	30.4	25.0	26.4
20-64	59.8	60.7	60.3	59.5	63.8	62.4	60.1	64.3	63.3
65+	10.0	13.6	12.2	9.8	11.1	10.4	9.5	10.7	10.4

FIGURE 1-2A. 1990 & 2005: POPULATION BY AGE & SEX

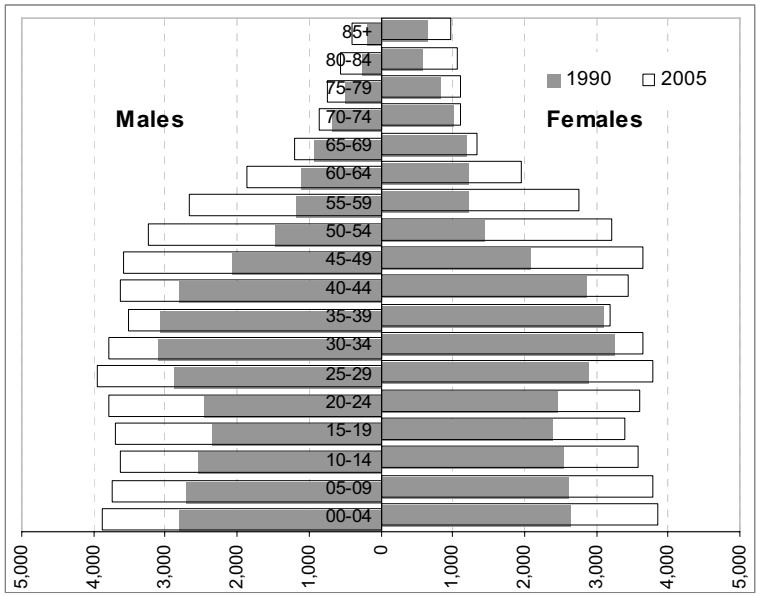
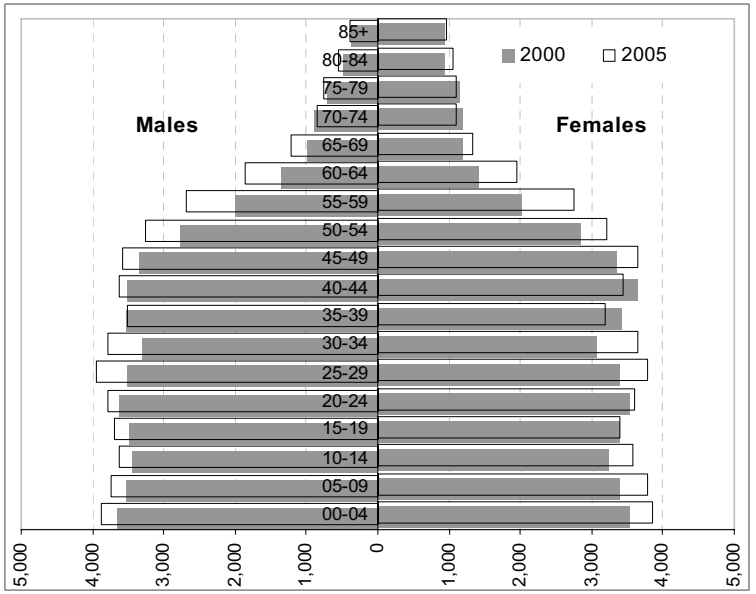
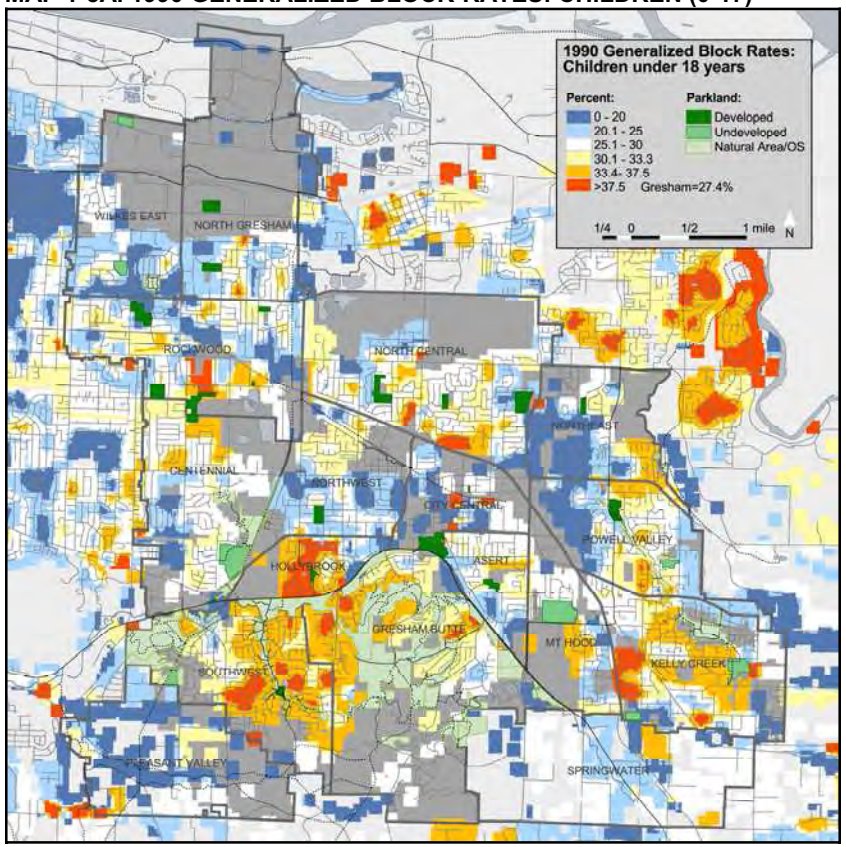


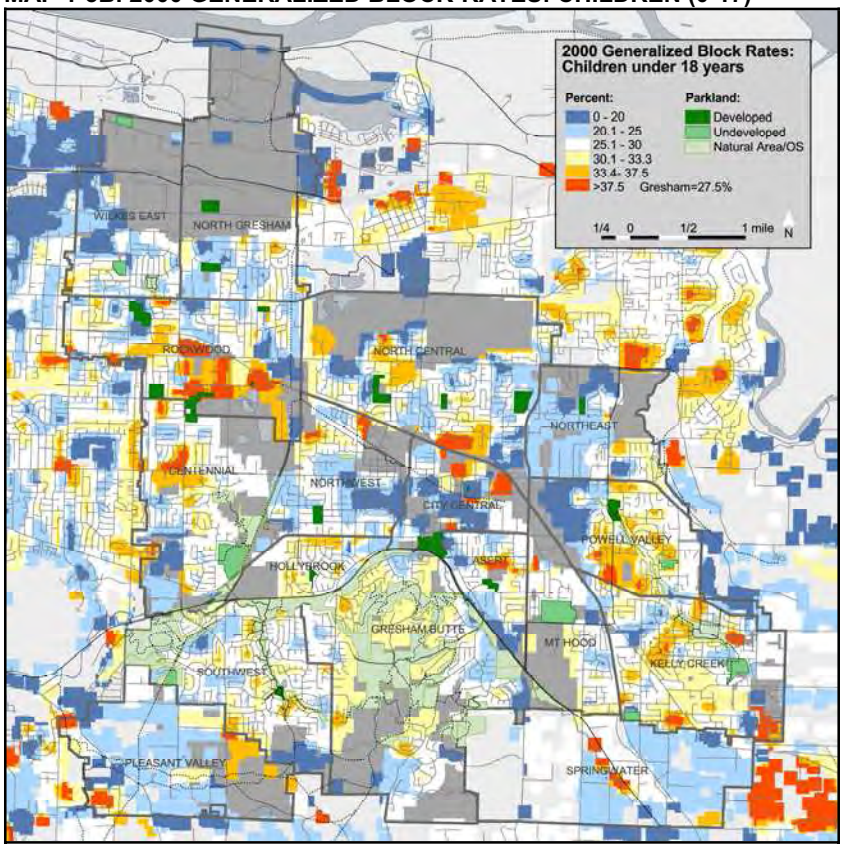
FIGURE 1-2B. 2000 & 2005: POPULATION BY AGE & SEX



MAP 1-3A. 1990 GENERALIZED BLOCK-RATES: CHILDREN (0-17)



MAP 1-3B. 2000 GENERALIZED BLOCK-RATES: CHILDREN (0-17)



Maps 1-3a and b show the distribution of children, but in a way slightly different than the preceding maps for population. These maps also use taxlot-level housing units and Census block rates, but instead of summing values they take the average of *rates* in the vicinity (i.e. they are "generalized"). In most respects these maps show children as a percent of total population, by Census block. But instead of using the block geography, the geography has been 'collapsed' or allocated to the taxlot-level housing units that fall within the block. The result again is a smoothed surface that uses the location of housing units (or at least, the taxlot center) to depict the rates around more real-world locations. Legends for these and subsequent similar maps split around the value for the City of Gresham (white). Used this way, the 'Gresham value' is treated as a norm, and values above and below can be thought of as above or below 'average'.

Map 1-3a shows locations in Hollybrook, Southwest, Gresham Butte, and Kelly Creek with the highest rates of children in 1990. Most locations in Southwest, for example, had populations made up of more than a third children, or at least 6 points above the Gresham norm. But by 2000, these rates declined, with most of Southwest falling at or near the norm. Locations in Rockwood, central Centennial, North Central, parts of Powell Valley and Kelly Creek had the highest rates in 2000 (trends since 2000 can be approximated from the birth map in part 2). These layers can also be overlayed on parks access layers.

RACE & ETHNICITY

Changes in how data on race and ethnicity were collected and reported in the 1990 and 2000 Censuses somewhat complicate analyses of racial-ethnic trends; care should be taken when interpreting change.[6,7] For post-2000 information, American Community Survey 3-year averages are utilized. These data, however, are for household populations only, and the most recent data spans the 2003-05 period.[8] Despite these limitations, it is clear that Gresham has grown more racially and ethnically diverse since 1990; from 8 percent persons of color in 1990 to more than 25 percent by 2003-05. [9]

While numerically still relatively small, Gresham's non-Hispanic Black population more than doubled during the 90s, from 721 to 1,612. By 2003-05, household Blacks numbered 2,840.[10] Native Americans increased by 17 percent during the 90s, from 601 to 702, and by 2003-05 numbered 1,000. Asians & Pacific Islanders increased 77 percent during the 90s, from 1,792 to 3,176. But by 2003-05, ACS data show a decline - household Asians numbering 2,807.[11] Table 1-2 shows race & ethnicity by total and share for the 1990, 2000, and 2003-05 periods.

The strongest growth during the 90s and beyond has been the Hispanic population. Hispanics more than quadrupled during the 90s, making them by far the largest group among Gresham's populations of color. In 1990, Hispanics numbered 2,284; in 2000, they numbered 10,619, 12 percent of Gresham's population and 56 percent of all persons of color. By the 2003-05 period, household Hispanics numbered 14,320, 15 percent of the population and 60 percent of all persons of color (in households). Using the ACS 2003-05 figure as a proxy for total Hispanics in 2004, average annual growth since 1990 has been 38 percent. For Multnomah County, by contrast, the figure is 17 percent.

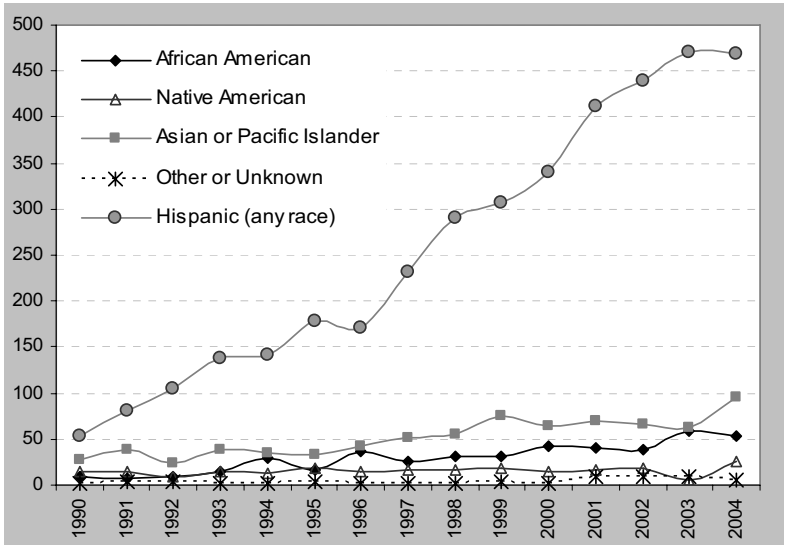
It is likely that populations of color will continue to grow - due to both positive net-migration and an increase in births. Births to mothers of color (i.e. to mothers of races other than White non-Hispanic) have grown steadily since 1990 (Figure 1-3). Their share among all births has grown from 10 percent, or 107 births in 1990, to 33 percent (462 births) in 2000, to 42 percent (648 births) in 2004. Births to Hispanic mothers in 2004 represented 72 percent of births to all mothers of color (470 out of 650 births); for 1990 the figure is 50 percent (53 out of 107 births). Although births to other mothers of color have increased since 1990, Hispanic births have driven overall growth. Births to White non-Hispanic mothers, by contrast, declined between 1990 and 2004: from 993 in 1990 to 900 in 2004.

TABLE 1-2. RACE & ETHNICITY: TOTALS & PERCENTAGE OF TOTALS, BY PERIOD

	1990		2000		ACS 2003-05	
	Total	Percent	Total	Percent	Total	Percent
Gresham >>	68,223	100	90,029	100	94,274	100
White	62,792	92.0	71,156	79.0	70,396	74.7
Black	721	1.1	1,612	1.8	2,840	3.0
Native American	601	0.9	702	0.8	999	1.1
Asian	1,792	2.6	3,176	3.5	2,807	3.0
Other	33	0.0	99	0.1	220	0.2
Two or more races	---	---	2,664	3.0	2,693	2.9
Hispanic	2,284	3.3	10,619	11.8	14,319	15.2

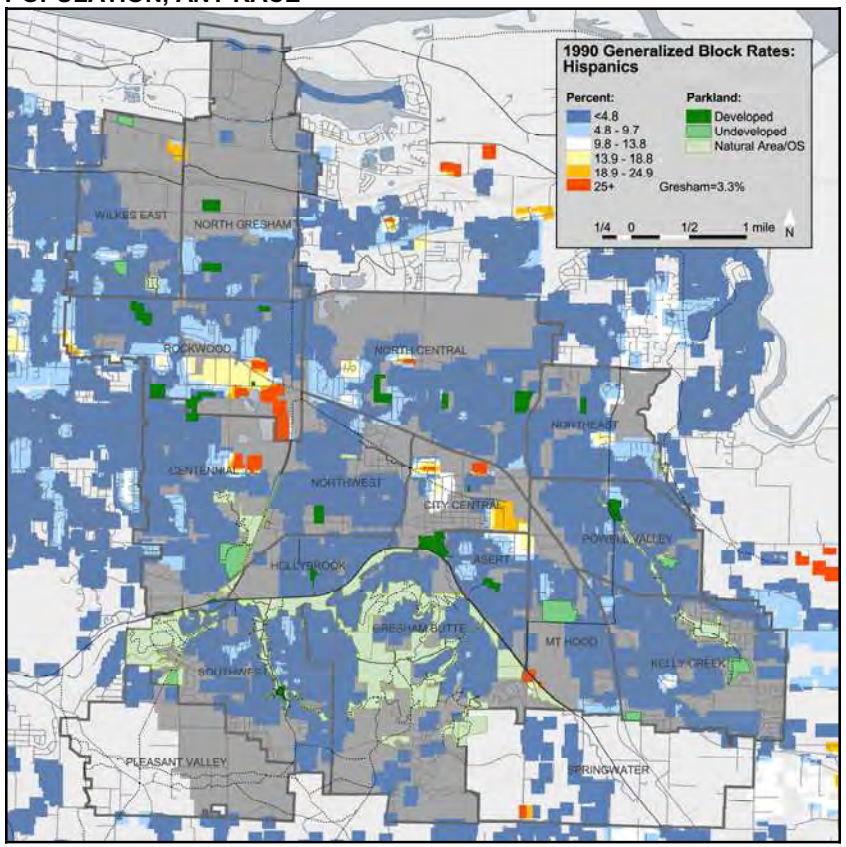
Note: racial categories are non-Hispanic; Hispanics can be any race. ACS data are for household population only; 1990 and 2000 data include all persons.

FIGURE 1-3. BIRTHS BY MOTHER'S RACE OR ETHNICITY, 1990-2004



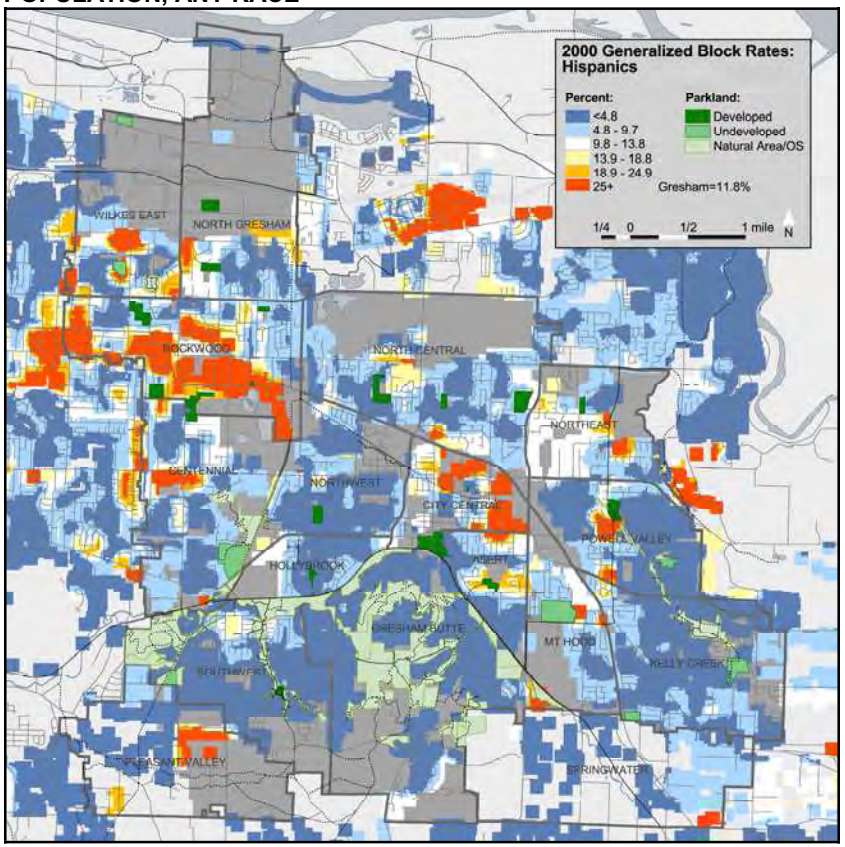
Source: Center for Health Statistics, Public Health Division, Oregon Human Services Department

MAP 1-4A. 1990 GENERALIZED BLOCK-RATES: HISPANIC POPULATION, ANY RACE



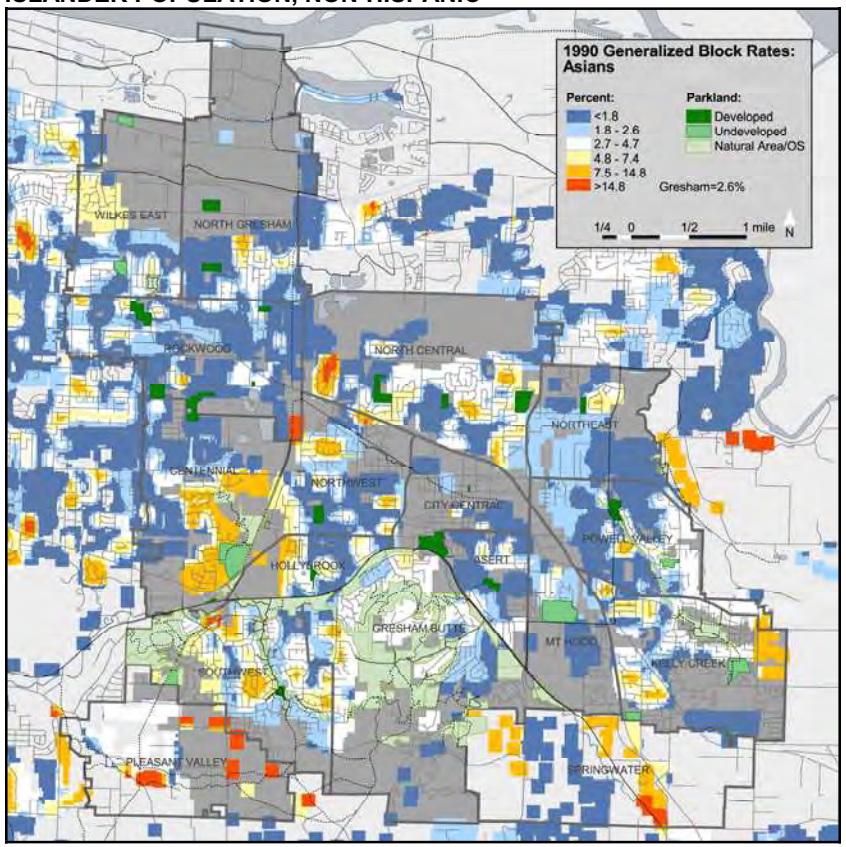
In 1990, only a few locations had high rates of Hispanics. Relative to classes used in the 2000 map view, where the Gresham value is 11.8 percent, the 1990 map view paints most of Gresham in darkest blue - locations around which Hispanics comprise less than 4.8 percent of the population. In fact, even the lowest class in 2000 is higher than the 1990 Gresham value (3.3%). In 1990 central Rockwood, City Central, and Centennial are the only neighborhoods where Hispanic concentrations greater than the 2000 Gresham value are readily apparent. By 2000 the picture has changed drastically.

MAP 1-4B. 2000 GENERALIZED BLOCK-RATES: HISPANIC POPULATION, ANY RACE



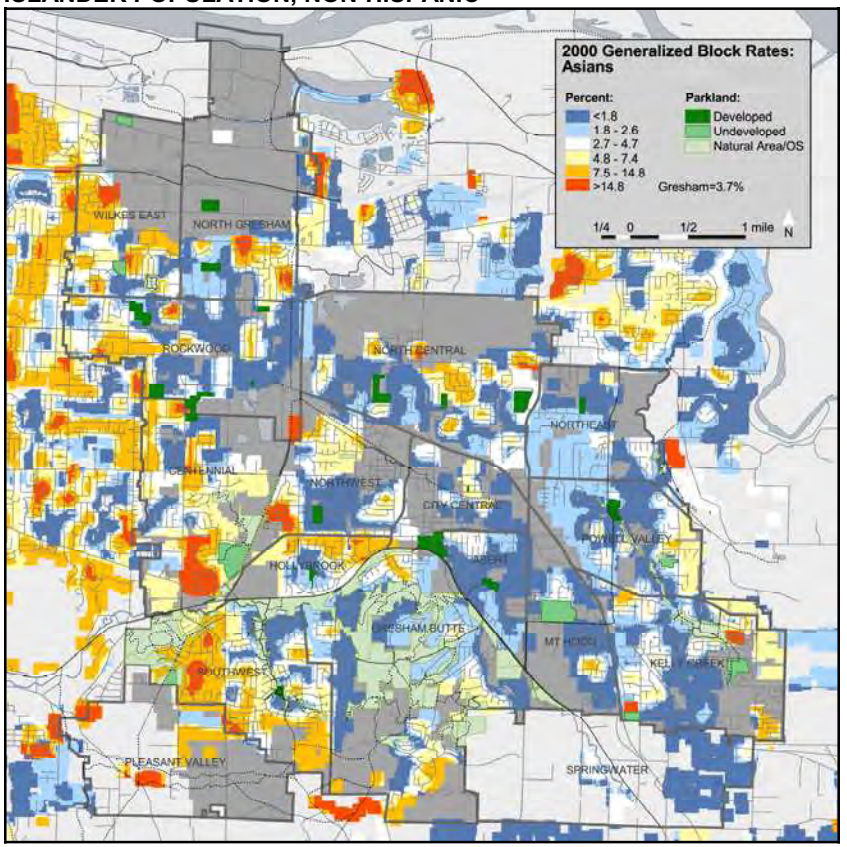
Most of Rockwood has rates at 25 percent or higher. City Central's 1990 concentrations have bloomed from the 18.9-24.9 percent class to 25 percent or above. Furthermore, locations surrounding these concentrations have 'moved' from darkest blues to light blues and whites - from less than 4.8 percent, or half the lower value of the middle class, to anywhere in the range of 4.8 to 13.8 percent. Despite widespread increases, however, the Hispanic population still remains relatively concentrated in few areas; rates are either very high or very low. To develop perspective on the absolute concentration of this and other sub-populations (i.e. density), compare these and other rate-maps to the population or housing unit density distribution maps.

MAP 1-5A. 1990 GENERALIZED BLOCK-RATES: ASIAN & PACIFIC ISLANDER POPULATION, NON-HISPANIC



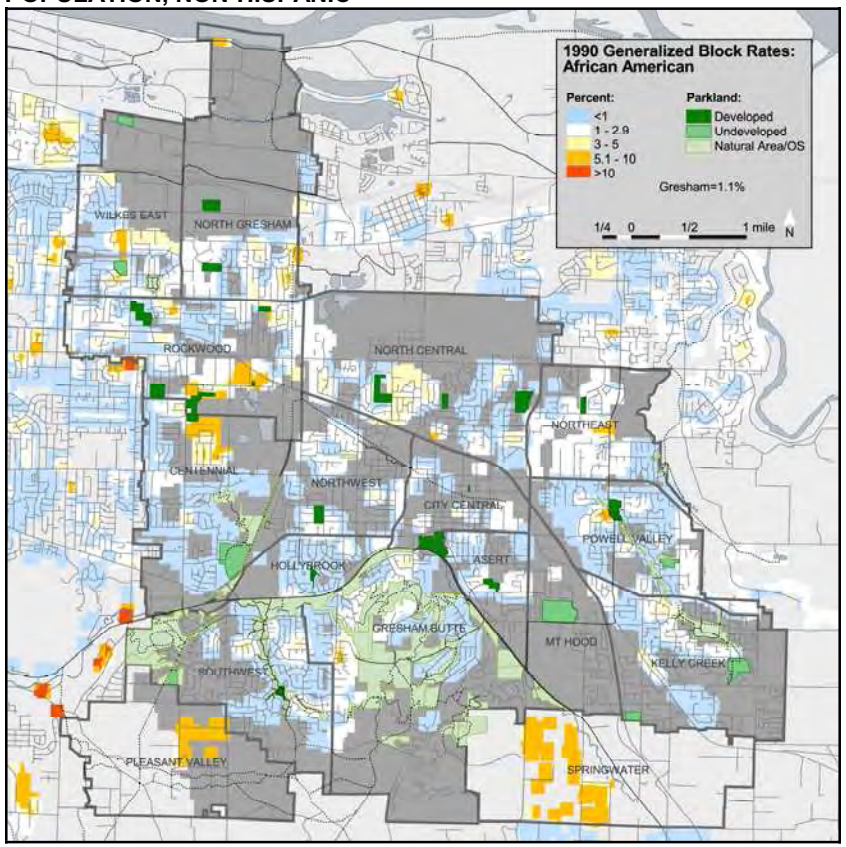
The Asian and Pacific Islander population also increased during the 90s, but not nearly to the degree of the Hispanic population. Note that colors from map to map may be the same or similar, yet they do not necessarily correspond to the same values from map to map. Maps are designed to highlight each population's unique spatial distribution; thus, color-values necessarily change from one population to the next. In maps 1-5a and b, the middle, white class, corresponds to values in the range of 2.7 to 4.7 percent. In contrast, the middle class for the Hispanic population maps is 9.8 to 13.8 percent.

MAP 1-5B. 2000 GENERALIZED BLOCK-RATES: ASIAN & PACIFIC ISLANDER POPULATION, NON-HISPANIC



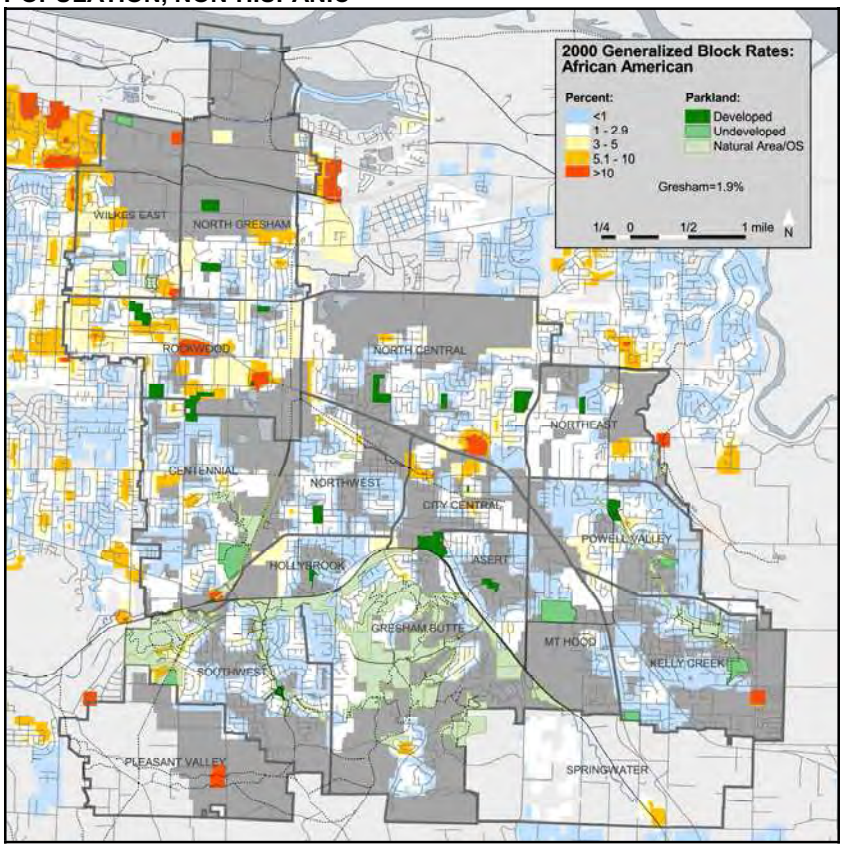
In 1990, Asians were primarily concentrated in southern Centennial. Above average rates - yellow-to-red - could be found in parts of Southwest and pockets in Hollybrook, Northwest, North Central, and western Kelly Creek. By 2000, outer east Portland saw widespread increases, and nearly every Gresham pocket that existed in 1990 grew. By 2000, most of Gresham's western border had Gresham's highest rates (greater than 14.8%, or double the Gresham value). Roughly 10 percent of the new housing near Jenne Butte natural area in the Southwest neighborhood became occupied by Asians. And most of northern Hollybrook added about 6 percentage-points during the 90s.

MAP 1-6A. 1990 GENERALIZED BLOCK-RATES: AFRICAN AMERICAN POPULATION, NON-HISPANIC



During the 90s the African American population also increased. And, as mentioned above, latter figures from the ACS show a major increase since 2000. Still, African Americans remain a small percentage of Gresham's total population: 1.1 percent in 1990, 1.9 percent in 2000 and, according to ACS, 3 percent by the 2003-05 period. Most of Gresham remained below 1 percent African Americans in 1990 and 2000, yet pockets within City Central, Wilkes East, North Gresham, North Central, and Centennial saw growth that bumped them up from below average to at least at or above average rates. In 2000, the highest rates could be found at locations within the Rockwood neighborhood, followed by North Central and City Central.

MAP 1-6B. 2000 GENERALIZED BLOCK-RATES: AFRICAN AMERICAN POPULATION, NON-HISPANIC



The only apparent declines occurred in central Kelly Creek: growth occurred at Kelly Creek's western side, but most of the slight concentrations (still only in the 1-2.9 percent range) seemed to have dissipated by 2000. As shown in later maps, the Kelly Creek neighborhood has seen new housing development in recent years, particularly at its eastern side.

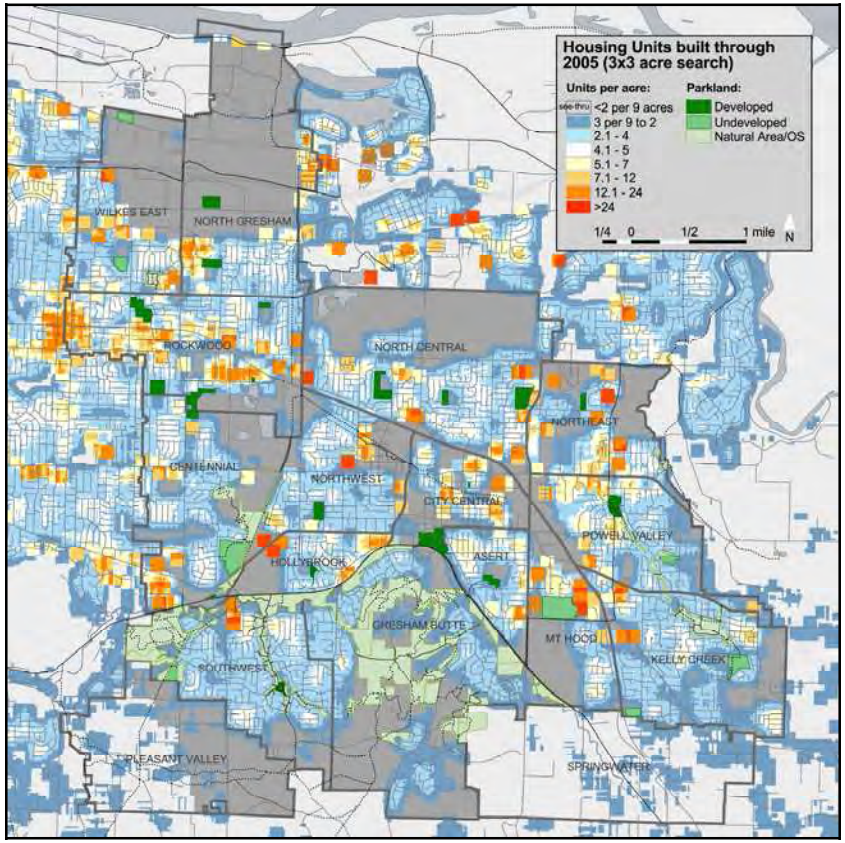
HOUSING

By 2006 Gresham held approximately 39,060 housing units, an increase of 3,824 units since the 2000 Census and of 12,085 units since the 1990 Census.[12] During the 90s, housing grew faster in Gresham than in either Multnomah County or the Portland-Metro area (increases of 30.6%, 12.8%, and 23.5%, respectively). According to ACS 3-year average housing data, Gresham grew 5.6 percent between the 2000-02 period on the one hand, and the 2003-05 period on the other, compared to Multnomah County, which grew 3 percent over the same time frame.[13] Unit density increased by 0.3 units per (gross) acre between 2000 and 2006, half as much as during the 90s. By 2006, unit density reached 2.7 units per acre. Map 1-7 shows the distribution of housing in and around Gresham. The 3 darkest orange-reds tend to identify multi-family densities, while white and blues identify single-family densities.

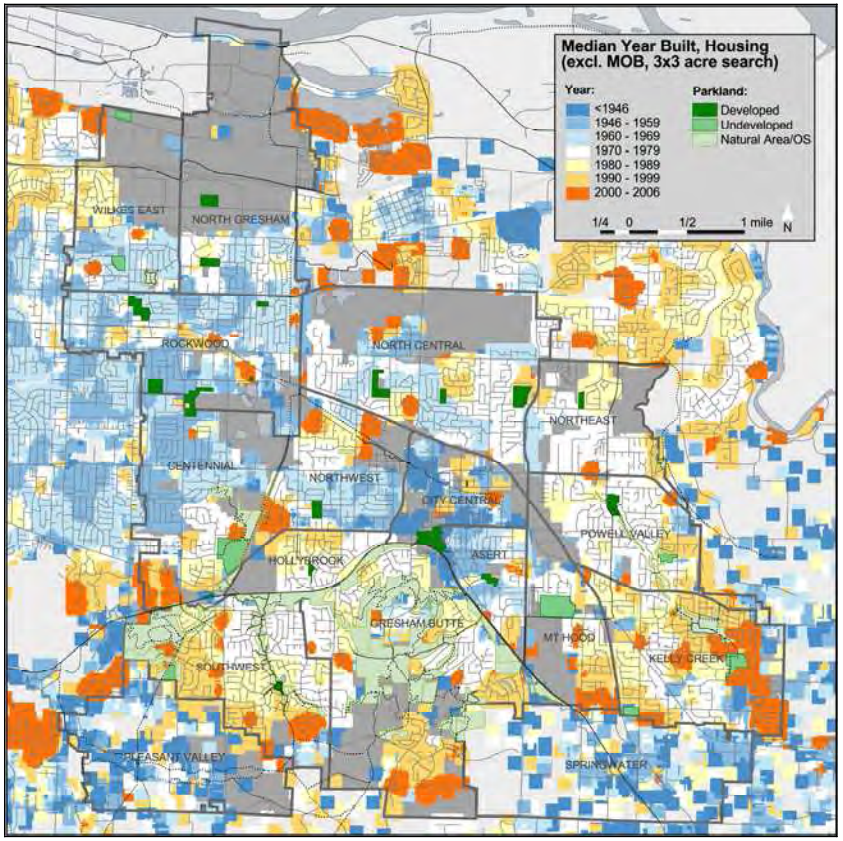
Half of Gresham's housing structures were built before 1979 and half after (median year built-1979; excludes mobiles). Map 1-8 shows the distribution of housing structures by median year built. Approximately 10 percent of Gresham's housing stock has been built since 2000, most of which can be found at the margins.

Gresham's *mix of housing types* has changed little over recent years. In 2000, 51.8 percent of Gresham's 35,232 housing units were single-family (detached & attached); 43.5 percent were multi-family, 3 percentage-points of which were condominiums;

MAP 1-7. HOUSING DISTRIBUTION IN & AROUND GRESHAM



MAP 1-8. MEDIAN YEAR STRUCTURE BUILT



4.3 percent were mobile or manufactured homes; and 0.5 percent were houseboats. Compared to housing in Multnomah County as a whole and to housing in the Portland-Metro area, Gresham had a considerably lower share of single-family units (compare Gresham's 51.8% to the County's 63% and Portland-Metro's 65%) and a considerably larger share of multi-family units (compare 43.5% to 35% County, 31% Portland-Metro). Since the 2000 Census, single-family units as a share of all units have increased by 0.5 percentage-points, while shares of mobile/manufactured homes and houseboats have declined by 0.1 and 0.5 points. The share of multi-family units has not changed. But within this category, the share of condominiums grew slightly (from 6.8% to 7.4%). While numerically small, these recent changes may indicate a break from historical trends - where a 10 percentage-point decline in the share of single-family units and a 10 percentage-point increase in the share of multi-family units occurred during the 90s. In contrast, the share of single-family units declined by less than 2 percentage-points in both Multnomah County and Metro during the 90s, while the share of multi-family units grew by 2.4-2.6 points.

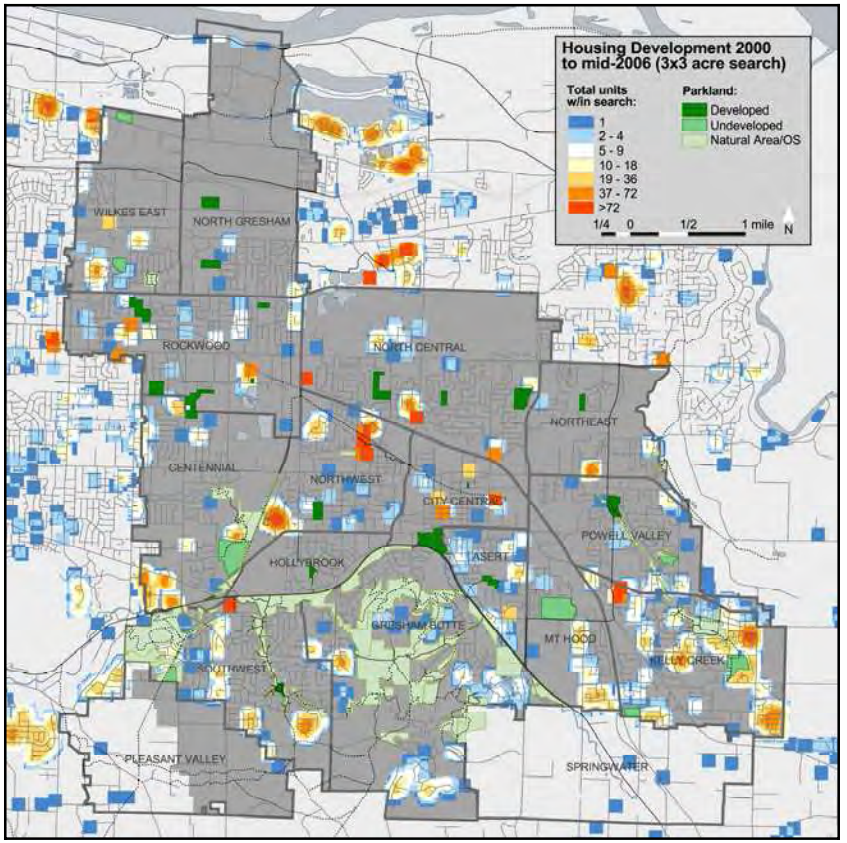
Analysis of available land, zoning, and other variables discussed along with the forecasts indicates that the mix of housing types in Gresham is likely to remain stable through the year 2020, with only slight growth in the share of single- and multi-family units, and a small decline - 0.2 percentage-points every 5 years - in the share of 'other' types.

The housing *occupancy rate* (occupied units divided by all units) was slightly higher in Gresham than in Multnomah County or the Portland-Metro area - both in 1990 and 2000. It declined slightly in all three areas during the 90s, by 2000 reaching 94.4 percent in Gresham, 94.3 percent in the County, and 94.2 percent in the Portland-Metro area. Between 2000-02 and 2003-05, the occupancy rate declined by 0.1 percentage-point to 94.1 percent in Gresham, and by 1.3 percentage-points to 93.1 percent in Multnomah County.

The *home ownership rate* in 1990 was higher in Gresham than in Multnomah County and close to the Portland-Metro rate (64.3% of occupied units owned versus 55.3% and 64.6%, respectively). It declined during the 90s by more than 9 percentage-points, reaching 55.4 percent by 2000. In comparison, Multnomah County's home ownership rate grew to 56.9 percent during the 90s while the Portland-Metro rate declined to 60.4 percent. According to 3-year average ACS data, ownership rates remained about the same up to the 2003-05 period.[14]

Gresham's housing, though more affordable than in many other areas, has grown pricier over the years. According to calculations based on Multnomah County tax assessor data, the *median saleprice* for single-family units and condos sold during the 1994-1996 period is $168,190, at $106 per sq. foot (in 2006$). Single-family units and condos sold during the 2004-06 period, by

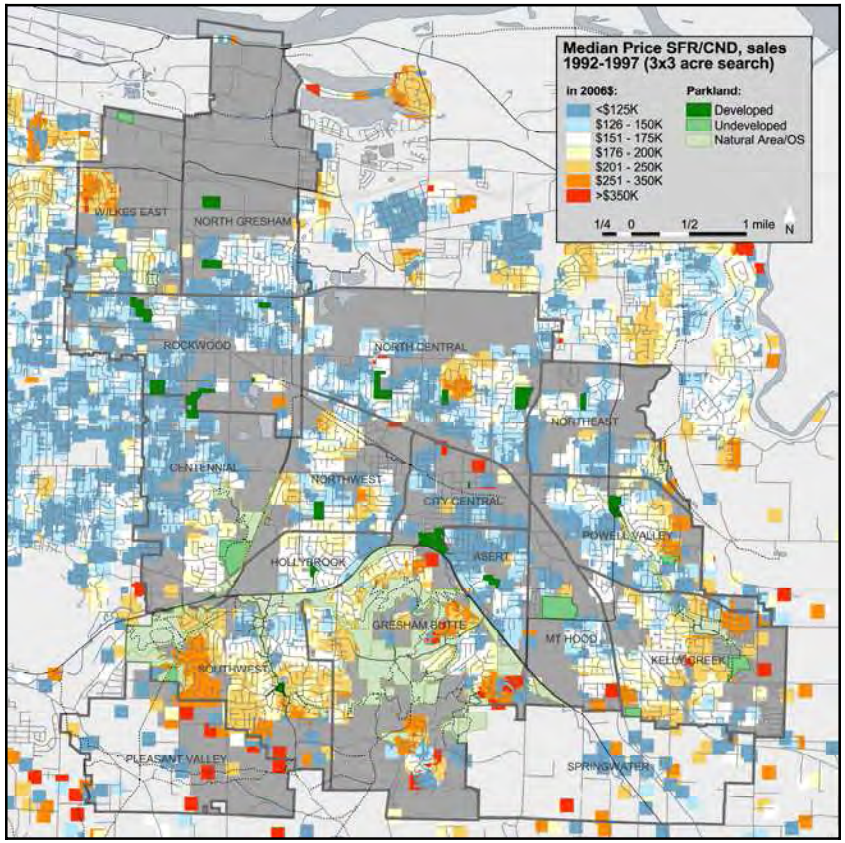
MAP 1-9. HOUSING DEVELOPMENT 2000-2006



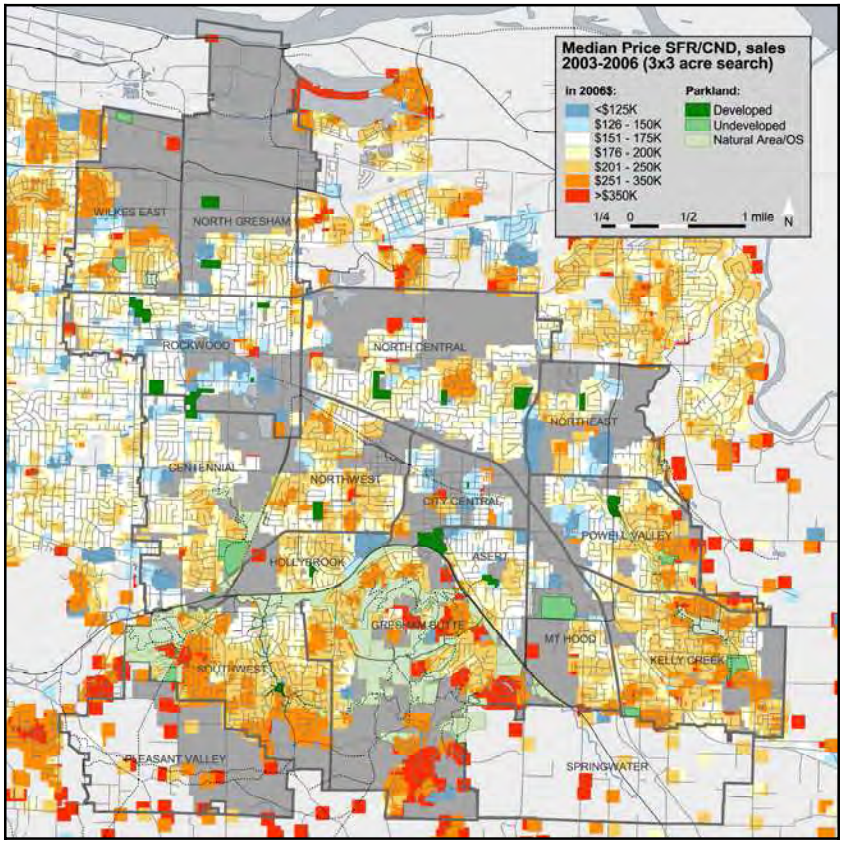
contrast, have a median saleprice of $201,880 (also in 2006$), at $131 per sq. foot. Thus, during roughly the decade 1995 to 2005, single-family housing values increased 25 percent. According to ACS data, *median household income* for the 2003-05 period, on the other hand, was $44,560 (in 2006$) - a 14.5 percent decline from the 1999 inflation-adjusted figure. 2003-05 *per-capita income* was $21,363 (also in 2006$). While housing costs have risen, incomes have not. A median household income of $44,560 would fall short of affording Gresham's median priced home: using a mortgage calculator, assuming typical lending parameters, the median income could only expect to afford a home costing under $141,000. The distribution of median saleprices for 2 periods are shown in Maps 1-10a and b.

Time periods for data are slightly larger than those stated at left, which is necessary to increase the number of data points that fall within search parameters. First, Map 1-10a shows the distribution of median prices, in 2006 dollars, for single-family homes and condos sold during the 1992-97 period. Locations exceeding the Gresham median of about $170,000 are found almost exclusively in the Southwest, Gresham Butte, & Kelly Creek neighborhoods (many newer units). By the second period, 2003-2006, most of Gresham is covered by yellow-orange. The highest sale prices are found where new housing development has taken place. But even older neighborhoods have seen large increases - many locations jumping from the lowest class in the 1992-97 period to the 4th, 5th or 6th class in the 2003-06 period.

MAP 1-10A. MEDIAN PRICE OF SINGLE-FAMILY/CONDO SALES, 1992-1997 PERIOD



MAP 1-10B. MEDIAN PRICE OF SINGLE-FAMILY/CONDO SALES, 2003-2006 PERIOD



HOUSEHOLDS

Families remain the biggest segment of Gresham's households: in 2003-05, they represented two-thirds of all households.[15] This contrasts with Multnomah County as a whole, where family households made up only about half of all households. Nationwide-trends toward fewer families, however, have affected the entire Portland region, including Gresham: in Gresham, the share of family households has declined from 70.3 percent in 1990 to 68.1 percent in 2000, and to 66.6 percent in 2003-05 (Multnomah County's figures are 59.1, 55.9, and 54.2 percent, and the Portland-Metro area's figures are 65.2% in 1990 and 62.9% in 2000).[16] Families tend to be larger - and growing. Compared to Multnomah County or the Portland-Metro area, Gresham's families are about 5 percent larger. In 1990, average family size was 3.10 persons per family. In 2000, it was 3.17 persons, and in 2003-05 it was 3.27 persons. For the County, these figures are 2.99, 3.03, and 3.11. Metro-wide, the 1990 average family size was 3.04, and in 2000 it was 3.07.

Married-couple families have followed similar trends: their share has been higher in Gresham than in Multnomah County or the Portland-Metro area, and the share has been declining. By 2003-05, the share of married-couple families among Gresham's households dropped below 50 percent for the first time, reaching 46.9 percent (see Table 1-3). In contrast, this happened well before 1990 in Multnomah County and by the year-2000 in the Portland-Metro area. Between 2000-02 and 2003-05, both the share and number of married-couples in Gresham declined.

Households with children (married-couple families or single-parent households) have shown similar trends. In Gresham, the share of households with children declined from 39.7 percent in 1990 to 39.1 percent in 2000, and to 34.6 percent in 2003-05. In Multnomah County, the share declined from 29.2 percent in 1990 to 26.5 percent in 2000, and to 25.1 percent in 2003-05. Metro-wide, one-third of all households had children in 1990; their share declined to 30.9 percent in 2000. Single-parent households have grown as a share of all households, reaching 13 percent in 2003-05. Families headed by single mothers out-number families headed by single fathers by a factor of 3.

The share of *1-person households* has grown. In Gresham, where 1-person households are the rarest among the three geographies, the share increased from 22.5 percent in 1990 to 24.3 percent in 2000, and to 26.8 percent in 2003-05. Figures for the County are 31.9, 32.5, and 34.4 percent. Metro-wide, 1-person households increased from 27.2 percent of all households in 1990 to 27.8 percent in 2000. By 2003-05, 1-person households became the most common household-type in Gresham - ahead of married couples without children and married couples with children (Table 1-3).

TABLE 1-3. HOUSEHOLD TYPES, 2000-2002 AND 2003-2005

Household Types	Period 1: 2000-2002		Period 2: 2003-2005		Period change	
	Total	Share	Total	Share	Total	Percent
Married couples, with children (*)	8,500	25.5	7,593	21.6	-907	-10.7
Married couples, no children	8,515	25.5	8,888	25.3	373	4.4
Single-father family	977	2.9	1,094	3.1	117	12.0
Single-mother family	2,602	7.8	3,489	9.9	887	34.1
Other families (no children)	1,979	5.9	2,367	6.7	388	19.6
1-person housholds (nonfamily)	8,501	25.5	9,414	26.8	913	10.7
Other nonfamily households	2,272	6.8	2,314	6.6	42	1.8
Total (All households)	33,346	100.0	35,159	100.0	1,813	5.4

*own children under 18 years-old

Finally, as a result of these trends, *average household size* grew during the 90s, but has remained stable since then. Growing family size in the 90s offset declining shares of family households and growing shares of 1-person households. Household size grew from 2.63 persons in 1990 to 2.67 persons in 2000. Between 2000-02 and 2003-05, 1-person households grew numerous enough for the average household size to remain stable in Gresham - at 2.68 persons, which is relatively large.

PART I SUMMARY

- In recent years, Gresham has grown slower than during the 90s - by about half the earlier rate. But it has also grown faster than the County or Portland-Metro area.

- Gresham's population has remained younger than County or Portland-Metro populations: its share of children is higher and its share of persons 65 years and older is lower.

- Racial-ethnic diversity has increased fast. In-migration of Hispanics, as well as births to Hispanic mothers, have made Hispanic population growth enormous. The Asian population grew during the 90s, but since then has slightly declined. Blacks have increased since 2000 - more than doubling, according to ACS 2003-05 data. Births to mothers of color have grown, while births to White non-Hispanic mothers have declined.

- Gresham's mix of housing types; its housing occupancy rate; and its home ownership rate have changed very little since 2000. Single-family housing became more expensive between 1995 and 2005: the median saleprice grew by about 25 percent during the ten-year period. In contrast, median household income and per-capita income have declined in real terms over recent years - by 14% and 22%, respectively, in real dollars between 1999 and 2004 (County figures are -6% and -13%).

- Families continue to be the largest segment of Gresham's households. The shares of all families, married-couple families, and families with children have been steadily declining since 1990 - though still remaining higher than County or Portland-Metro figures. Average family size has increased, likely due to larger families among racial-ethnic minorities. The share of 1-person households has steadily grown, though the trend in Gresham trails the trends in the County and Portland-Metro area, which began moving toward more 1-person households earlier.

PART II. POPULATION FORECASTS

The population forecasts are prepared in 5-year intervals through the year 2020 (at 2005, 2010, 2015, and 2020) for the City of Gresham, its neighborhoods, and for the Springwater and Pleasant Valley communities.[17] City-wide forecasts are prepared by 5-year age groups by sex. Neighborhood-level forecasts, including forecasts for Pleasant Valley and Springwater, are prepared for the general population only. The following text summarizes the forecasts and discusses methods used in their preparation. More detailed results can be found in the appendix.

GRESHAM

Based on historical and recent growth trends, on growth expectations of regional and local planners, and on the cohort-component method for population forecasts, Gresham is expected to continue to grow over the next 14 years, reaching approximately *112,100 people in 2020* (see Table 1-4). Gresham will grow faster than Multnomah County as a whole, but slower than the Portland-Metro area. Gresham's share of Multnomah County population will grow slightly (Figure 1-4), but its share of Portland-Metro area population will slightly shrink.

On average, *Gresham will grow 1.0 percent per year between 2005 and 2020*, an addition of 940 persons per year or 14,000 persons over the period. This is 21,900 additional residents since Census 2000.

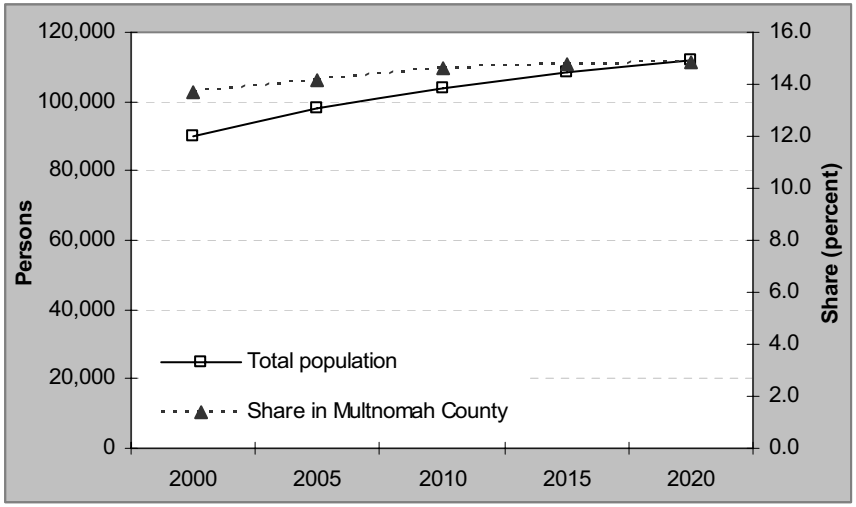
TABLE 1-4. POPULATION FORECASTS, GRESHAM, MULTNOMAH COUNTY, AND METRO[18], 2005-2020

Area/Year	2000-05	2005-10	2010-15	2015-20	*2005-2020*
Gresham:					
Population (*)	*98,072*	*103,885*	*108,406*	*112,113*	n/a
Growth (persons)	7,867	5,813	4,520	3,707	14,041
Annual growth rates, %	1.5	1.2	0.9	0.7	1.0
Multnomah Co.	0.9	0.6	0.7	0.6	0.6
Metro	1.1	1.4	1.4	1.3	1.5

(*) Population at end of interval

Growth will be fastest during the first 5 years, at 1.2 percent per year, and gradually decline thereafter: 0.9 percent per year 2010-2015 and 0.7 percent per year 2015-2020.

FIGURE 1-4. CURRENT AND FORECASTED POPULATION OF GRESHAM AND ITS SHARE IN MULTNOMAH COUNTY, 2000-2020



Gresham's population will grow older: the share of persons 65 years and above is expected to increase from 9.5 percent in 2005 to 12.5 percent in 2020 (Table 1-5). The share of children and teens will remain fairly stable - at 30.4-30.6 percent, while the share of working-age adults will decline by 3 percentage-points.

TABLE 1-5. GRESHAM POPULATION BY AGE GROUP, 2005-2020

	2005	2010	2015	2020
Population	98,072	103,885	108,406	112,113
Age:		*percent of total population*		
0-19	30.4	30.5	30.6	30.5
20-64	60.1	59.5	58.2	57.1
65+	9.5	10.0	11.2	12.5
Total	100.0	100.0	100.0	100.0

Among children, the fastest growing group will be teens age 15 to 19, which group will grow 19.1 percent between 2005 and 2020 (Table 1-6). *Children age 10 to 14 will grow nearly as fast* - by 18.9 percent. The youngest children, age 0 to 4, will grow the least - by 8.4 percent.

TABLE 1-6. PERCENT CHANGE IN CHILDREN AGE 0 TO 19, GRESHAM, 2000-2020

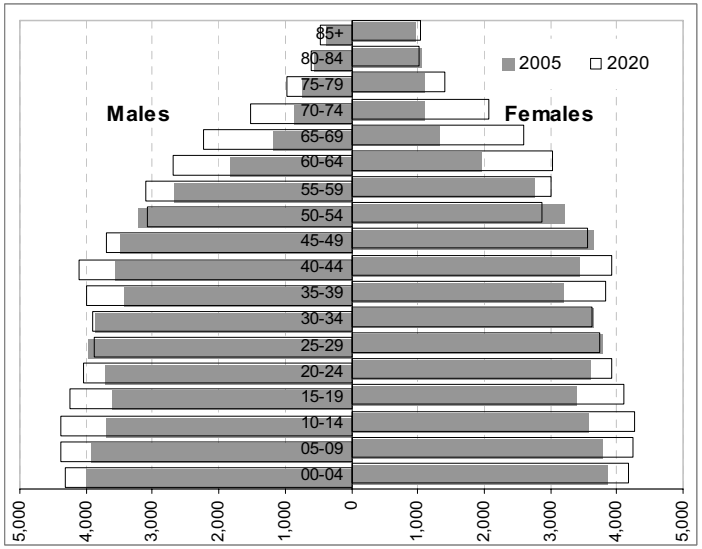
Age	2000-05	2005-10	2010-15	2015-20	*2005-20*
0-4	9.3	4.8	1.6	1.8	8.4
5-9	11.1	6.7	4.3	0.6	11.8
10-14	8.9	8.4	5.8	3.7	18.9
15-19	1.6	5.2	7.2	5.6	19.1

METHODS & ASSUMPTIONS

The *cohort-component method* models future populations as outcomes of life-events, such as 1) deaths, 2) births, and 3) relocations (migrations) into or out of a given area (these are the "components" in the term "cohort-component"). Populations grow, for example, if births outnumber deaths or if more people move into an area than out of it. Life-events occur in certain age-groups, or "cohorts," more often than in others. For example, the elderly have lower chances of survival than people in their 40s; births occur to women in certain age-groups more often than in other age-groups. Applying appropriate age- and sex-specific rates of death, birth, and migration to existing age and sex cohorts produces future population by age and sex ("population structure"). Figure 1-5 shows Gresham's 2005 population pyramid (i.e. structure) superimposed over its forecasted 2020 pyramid. Both are based on Gresham's population structure at Census 2000 and on *assumptions* about life-event rates for each age and sex group, which are explained below.

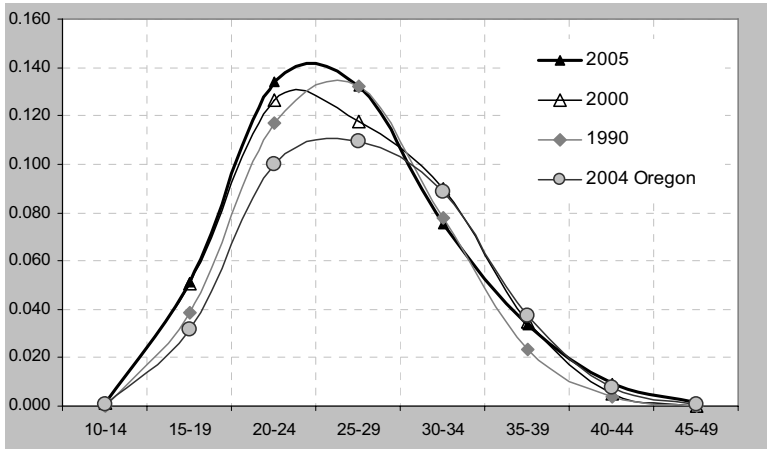
First, to estimate future *deaths*, current State of Oregon survival rates are used throughout the forecast period. These rates remain fairly stable over time.

FIGURE 1-5. POPULATION FORECASTS BY AGE AND SEX, 2005-2020



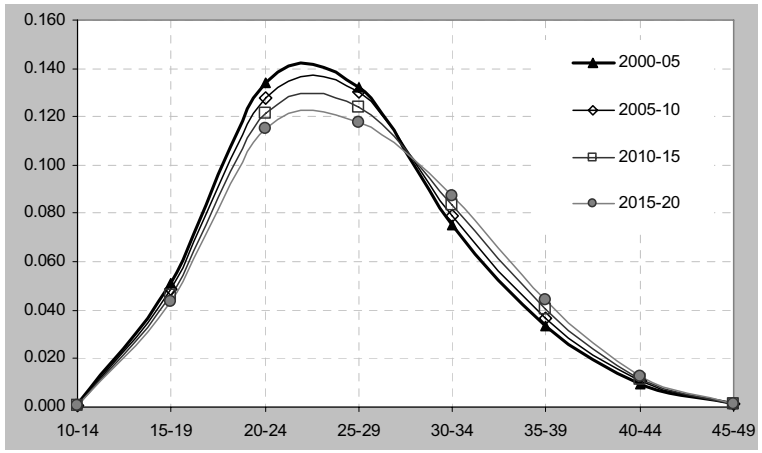
Second, to develop assumptions about likely future *birth rates*, birth data for the 1990-2004 period were examined. Birth rates typically vary much more than death rates. Figure 1-6 shows age-specific birth (fertility) rates for Gresham in 1990, 2000, and 2005 and, for comparison, Oregon rates in 2004. The Gresham curves show the highest birth rates among women age 24-29. In addition, rates for older mothers (age 35 and above) have increased over time. Although typically the pattern of delaying births to later child-bearing years is apparent across all age groups, this has not been the case for Gresham. It is fairly typical for urban populations to show increasing birth rates among older women - and corresponding decreasing rates among younger women, because the younger women are the ones delaying births. Among Gresham's younger women (age 15 to 24), however, birth rates grew consistently between 1990 and 2005. Furthermore, rates for women 25 to 29 years-old, while declining by 2000, grew back by 2005. Gresham's Total Fertility Rate (TFR)[19] increased from 1.96 in 1990 to 2.13 in 2000 and to 2.19 by 2005. This contrasts with Oregon's TFR, which declined from 2.00 in 1990 to 1.98 in 2000 and to 1.88 in 2004. Gresham's trends are not surprising in light of increasing births to mothers of color and, particularly, to Hispanic mothers (recall Figure 1-3).

FIGURE 1-6. AGE-SPECIFIC FERTILITY RATES, GRESHAM AND STATE OF OREGON, 1990-2005



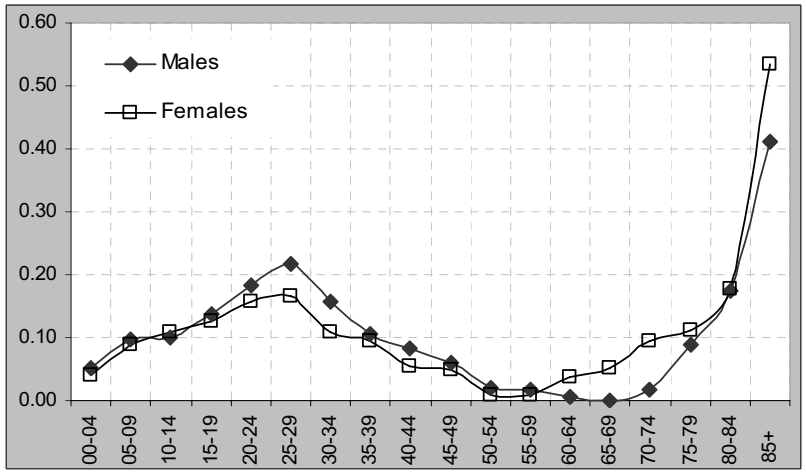
The Gresham forecast assumes continued growth in minority populations and, particularly, women of color in child-bearing ages, throughout the forecast period. Higher fertility rates that would result, however, are slightly offset by lower fertility rates among White non-Hispanic mothers. Thus, TFR slightly decreases to 2.17 between 2005 and 2010; to 2.14 between 2010 and 2015; and to 2.12 between 2015 and 2020 (Figure 1-7).

FIGURE 1-7. CURRENT AND FORECASTED AGE-SPECIFIC FERTILITY RATES, GRESHAM, 2000-2020



Third, *migration rates* tend to be the least stable among life-event rates and the most difficult to predict. Little reliable data are available for in- and out-migration; thus, in reality, one works with *net-migration* - the balance between in- and out-migration. This is generally calculated by subtracting natural increase (births minus deaths) from change in total population between two or more known dates. Net-migration is positive when more people move into an area than leave it and negative if the opposite is true. Net-migration rates used in the cohort-component model can be interpreted as the number of people added to (or subtracted from) a given cohort, per resident, due to migration over a period of time (in our case 5 years; see Figure 1-8).

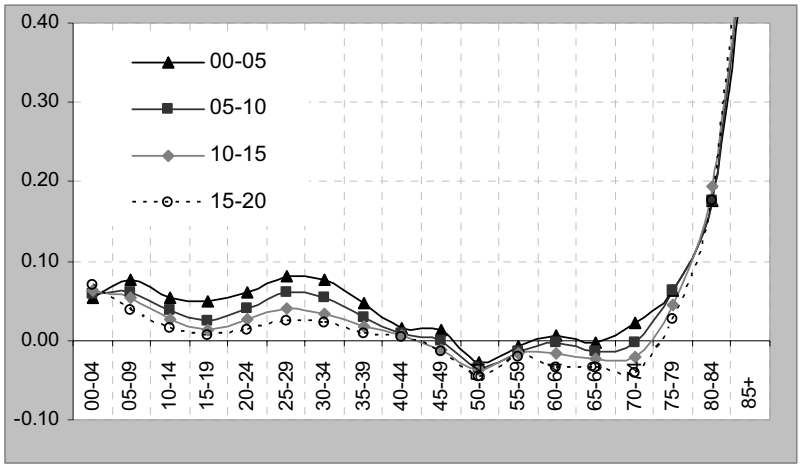
FIGURE 1-8. AGE-SPECIFIC 5-YEAR AVERAGE NET-MIGRATION RATES BY SEX, GRESHAM, 1990-2000



Initial 5-year average net-migration rates for Gresham are derived from 1990 and 2000 age and sex structures, and from births and deaths that occurred during the decade. These rates, together with age-specific birth and death rates, are applied to the 1990 population structure to produce an estimated 1995 population structure. Calculations are repeated to derive an estimated 2000 population structure, which is compared to the actual 2000 population structure. Then, 5-year average 1995-2000 net-migration rates are adjusted to match the actual 2000 population structure. These adjusted rates form the base for calculating

projected net-migration rates, which undergo additional transformations based on analyst assumptions about likely future migration patterns. Figure 1-9 shows projected net-migration rates for females over the forecast period.

FIGURE 1-9. CURRENT AND FORECASTED AGE-SPECIFIC 5-YEAR AVERAGE NET-MIGRATION RATES, FEMALES, GRESHAM, 2000-2020



The forecast anticipates that positive net-migration of younger adults and of parents with preschool- and school-age children will continue, albeit at decreasing rates, throughout the forecast period. Strong positive net-migration is expected to continue for seniors age 75 and above, although numerically, population gains at these ages are small. Among adults in pre-retirement and early retirement ages, out-migration is expected to be more than in-migration: these age-groups have the greatest financial resources and thus the widest range of residential and other choices.

* * *

The following text presents neighborhood-level forecasts. Since these forecasts rely a great deal on neighborhood-level trends, the text begins with a discussion of these trends, followed by the forecasts themselves.

NEIGHBORHOODS (overview)

One half of Gresham's population is contained in five of its 15 neighborhoods. The top three neighborhoods - Rockwood, North Central, and Centennial - hold 35 percent of the City's total population (see Table 1-7). These neighborhoods are also among the oldest: the median year-built for housing structures in Rockwood and Centennial is 1962; for North Central it is 1972 (see Table 1-8). Between 1990 and 2000, a third of Gresham's population growth occurred in these neighborhoods, whereas, since then, it has been 28.2 percent. The bulk of recent growth has taken place in Kelly Creek, Northwest, and Gresham Butte, which together contributed nearly one-half (45.9%) to Gresham's total population growth between 2000 and the end of 2005. Kelly Creek has been the fastest growing neighborhood, with an average annual growth rate of 8.4 percent between 1990 and the end of 2005. It is also one of the youngest neighborhoods in terms of housing structures, with a median year-built of 1994. As discussed below, Gresham Butte, Kelly Creek, and Northwest are expected to continue to be the fastest growing neighborhoods. Taken together, they are expected to contribute over half (52 percent) to Gresham's total population growth between 2005 and 2020.

The neighborhood-level forecasts rely on the housing-units method, which translates housing growth into population growth (explained in more detail further on). One of the main tasks is to convert growth in units to growth in population, which conversion is primarily a matter of understanding trends and patterns in household size. Several factors affecting household size are described below. These are: *housing type, tenure* (ownership versus rentership), and *households by race-ethnicity*. Often, getting the size right depends on a mix of these factors. Since Gresham's neighborhoods are very diverse no one factor out-weighs the others in every situation.

Housing-type influences household size, as multi-family units tend to have smaller households than single-family units. Population in neighborhoods with a larger share of multi-family units is likely to grow less per unit growth, all else being equal. In all Gresham's neighborhoods except Asert, in both 1990 and 2000, average

household size for multi-family units was considerably smaller than households in single-family homes. City-wide, single-family homes had an average household size of 2.93 in 2000, versus only 2.33 in multi-family homes (see Table 1-8). City Central has the largest share of multi-family units, at 81.9 percent, followed by Northeast (74.3%) and Rockwood (60.5%). In 6 other neighborhoods multi-family units comprise more than one-half of all units. On the other side, 99.8 percent of Gresham Butte's housing units are single-family, followed by Southwest (86.7%) and Kelly Creek (78%). Single-family homes comprise more than half of all housing units in 8 neighborhoods. Larger households typical of such housing contribute to larger populations per unit growth, other factors being equal.

Tenure is another factor influencing household size: owner-households tend to be larger than renter-households.[20] As with single-family homes, the highest 2000 home ownership rates are found in Gresham Butte (95.1%), Southwest (87.0%), and Kelly Creek (76.4%) (see Table 1-9). These neighborhoods also saw substantial growth in median housing prices since the 1994-96 period, becoming the most expensive neighborhoods by the 2004-06 period. The lowest home ownership rates are found in City Central, Northeast, and Rockwood which, as mentioned above, have the largest shares of multi-family units. Between 1990 and 2000, home ownership rates declined in 10 neighborhoods, with the sharpest declines found in Hollybrook, Northwest, and Centennial. Even though owner-households tend to be the largest, however, combining tenure and housing-type finds Gresham's *rented single-family* (detached) units with even larger households.[21] This is why some neighborhoods with low home ownership rates, such as Rockwood, still have relatively high average household sizes.

Finally*, racial-ethnic household composition* also influences household size. Households among Gresham's racial-ethnic minorities are larger than households among its non-Hispanic Whites; thus, a larger share of persons of color in a neighborhood is likely to produce larger populations, other factors being equal. This is particularly true for households headed by a Hispanic or Latino person (see Table 1-11). During the 90s, racial-ethnic diversity increased in all Gresham neighborhoods -

TABLE 1-7. POPULATION BY NEIGHBORHOOD: TOTAL, SHARE, & GROWTH RATE, 1990-2005

	Actual		Estimated	Share of Total (%)			Annual Growth (%)	
Neighborhoods	**1990**	**2000**	**2005**	**1990**	**2000**	**2005**	**1990-2000**	**2000-05**
ASERT	2,550	2,980	3,168	3.7	3.3	3.2	1.7	1.1
CENTENNIAL	5,807	7,758	8,778	8.5	8.6	9.0	3.4	2.3
CITY CENTRAL	1,785	2,615	3,063	2.6	2.9	3.1	4.7	3.0
GRESHAM BUTTE	3,655	4,558	5,155	5.4	5.1	5.3	2.5	2.3
HOLLYBROOK	2,356	4,379	4,463	3.5	4.9	4.6	8.6	0.3
KELLY CREEK	3,569	6,021	8,307	5.2	6.7	8.5	6.9	6.6
MT HOOD	1,823	3,835	3,983	2.7	4.3	4.1	11.0	0.7
NORTH CENTRAL	8,475	9,838	10,412	12.4	10.9	10.6	1.6	1.0
NORTH GRESHAM	4,486	4,817	5,237	6.6	5.4	5.3	0.7	1.5
NORTHEAST	4,544	5,959	6,068	6.7	6.6	6.2	3.1	0.3
NORTHWEST	3,815	4,701	5,510	5.6	5.2	5.6	2.3	3.0
POWELL VALLEY	5,631	6,580	6,748	8.3	7.3	6.9	1.7	0.4
ROCKWOOD	10,521	14,481	15,152	15.4	16.1	15.5	3.8	0.8
SOUTHWEST	4,979	6,785	7,188	7.3	7.5	7.3	3.6	1.0
WILKES EAST	4,225	4,723	4,840	6.2	5.2	4.9	1.2	0.4
TOTAL	68,223	90,029	98,072	100.0	100.0	100.0	3.2	1.6

TABLE 1-8. NEIGHBORHOOD HOUSING CHARACTERISTICS JANUARY 2006 (AND HOUSEHOLD SIZE 2000)

	Housing units		**Year built**	**Built after 3/00**	**SFR**	**MFR**	**Other**	**Household size (2000)**		
Neighborhoods	*count*	*per acre*	*med.*	*%*	*%*	*%*	*%*	SFR	MFR	Other
ASERT	1,262	3.5	1966	8.8	59.7	40.3	0.0	2.48	3.01	*n/a*
CENTENNIAL	3,339	2.9	1962	11.3	58.9	41.1	0.0	3.02	2.67	2.39
CITY CENTRAL	1,210	2.6	1942	17.9	18.1	81.9	0.0	3.16	2.41	*n/a*
GRESHAM BUTTE	1,835	0.9	1984	14.4	99.8	0.2	0.0	2.98	1.90	*n/a*
HOLLYBROOK	1,890	4.8	1981	0.0	42.5	57.5	0.0	3.26	1.78	*n/a*
KELLY CREEK	3,180	3.0	1994	44.7	78.0	22.0	0.0	3.09	1.94	2.91
MT HOOD	1,832	3.1	1995	7.7	28.5	53.7	17.8	2.49	2.33	2.48
NORTH CENTRAL	4,412	2.7	1972	13.3	55.0	43.0	2.1	2.79	2.27	2.26
NORTH GRESHAM	2,124	1.5	1964	1.0	37.7	32.1	30.2	2.84	2.29	3.97
NORTHEAST	2,715	3.9	1977	2.9	25.7	74.3	0.0	2.71	2.20	2.21
NORTHWEST	2,511	3.2	1974	26.6	56.0	44.0	0.0	2.71	1.87	*n/a*
POWELL VALLEY	2,517	3.3	1978	2.9	58.2	31.5	10.3	3.01	2.41	1.79
ROCKWOOD	5,442	4.8	1962	4.3	33.8	60.5	5.7	3.04	2.95	2.27
SOUTHWEST	2,701	2.6	1984	12.0	86.7	13.3	0.0	2.97	1.97	*n/a*
WILKES EAST	2,085	2.4	1969	6.3	44.9	55.0	0.1	2.91	2.07	*n/a*
TOTAL	39,056	2.7	1979	10.9	52.3	43.4	4.3	2.93	2.33	2.23

TABLE 1-9. NEIGHBORHOOD HOUSING CHARACTERISTICS, 1990-2000 (AND MEDIAN SALE PRICE ~2005)

Neighborhoods	Housing units 1990	Housing units 2000	Ann. growth %	Percent vacant 1990	Percent vacant 2000	Percent owned* 1990	Percent owned* 2000	2005** Median price 2006$	Change since 1995 %
ASERT	987	1,160	1.8	3.9	3.7	56.9	55.5	186,430	34.1
CENTENNIAL	2,211	3,001	3.6	3.3	5.4	65.1	55.1	185,400	21.8
CITY CENTRAL	835	1,026	2.3	3.8	6.4	21.0	15.7	189,520	61.4
GRESHAM BUTTE	1,153	1,604	3.9	1.3	3.4	92.7	95.1	269,860	30.8
HOLLYBROOK	925	1,890	10.4	2.9	4.3	59.8	41.5	212,402	24.9
KELLY CREEK	1,179	2,198	8.6	1.4	5.9	83.0	76.4	242,050	28.5
MT HOOD	763	1,701	12.3	2.5	7.2	52.6	43.0	216,300	31.1
NORTH CENTRAL	3,243	3,893	2.0	4.0	4.0	62.7	57.2	189,390	19.6
NORTH GRESHAM	1,922	2,103	0.9	4.7	8.1	61.4	64.3	191,580	22.7
NORTHEAST	2,364	2,638	1.2	17.8	8.8	31.5	32.6	194,670	21.7
NORTHWEST	1,455	1,983	3.6	2.0	6.0	77.9	65.0	204,816	15.5
POWELL VALLEY	2,158	2,445	1.3	2.5	3.3	66.8	67.0	206,250	27.2
ROCKWOOD	4,328	5,217	2.1	5.0	6.6	36.7	33.0	174,500	36.0
SOUTHWEST	1,565	2,411	5.4	1.3	2.9	92.6	87.0	265,170	21.7
WILKES EAST	1,883	1,961	0.4	4.7	6.7	44.7	47.4	229,345	11.8
TOTAL	26,971	35,232	3.1	4.7	5.6	58.3	55.0	201,880	20.1

* Percent owned: owner-occupied units as a percentage of all occupied units; owned + rented=100% **Median price: SFR or Condo units sold during 2004-06 period; 1995=1994-1996

TABLE 1-10. RACIAL/ETHNIC GROUPS BY NEIGHBORHOOD 1990-2000

Neighborhoods	White non-Hispanic 1990	White non-Hispanic 2000	Ann. growth %	All persons of color 1990	All persons of color 2000	Ann. growth %	Hispanic or Latino 1990	Hispanic or Latino 2000	Ann. growth %
ASERT	2,363	2,524	0.7	187	456	14.4	109	265	14.3
CENTENNIAL	5,319	6,161	1.6	488	1,597	22.7	167	669	30.0
CITY CENTRAL	1,560	1,667	0.7	225	948	32.1	174	752	33.1
GRESHAM BUTTE	3,435	4,118	2.0	220	439	10.0	57	126	12.1
HOLLYBROOK	2,238	3,563	5.9	118	816	59.3	25	312	116.5
KELLY CREEK	3,346	5,477	6.4	223	544	14.4	84	231	17.4
MT HOOD	1,710	3,301	9.3	113	534	37.3	50	308	51.6
NORTH CENTRAL	7,809	8,236	0.5	666	1,602	14.1	239	760	21.8
NORTH GRESHAM	4,146	3,904	-0.6	341	913	16.8	134	436	22.6
NORTHEAST	4,168	4,691	1.3	376	1,268	23.7	174	753	33.3
NORTHWEST	3,569	4,066	1.4	246	635	15.8	66	219	23.2
POWELL VALLEY	5,344	5,648	0.6	287	932	22.5	94	540	47.6
ROCKWOOD	9,317	8,446	-0.9	1,204	6,035	40.1	694	4,388	53.3
SOUTHWEST	4,598	5,854	2.7	381	931	14.4	105	248	13.7
WILKES EAST	3,870	3,501	-1.0	356	1,222	24.4	112	612	44.5
TOTAL	62,792	71,156	1.3	5,431	18,872	24.8	2,284	10,619	36.5

although at different rates for different racial-ethnic groups. Hollybrook and Mt. Hood experienced the fastest growth in populations of color, including Hispanic or Latino persons, as well as in non-Hispanic Whites (see Table 1-10). In contrast, Kelly Creek, Southwest, and Gresham Butte, while also showing fast growth in non-Hispanic Whites, saw some of the smallest gains in racial-ethnic minorities (recall that these are also the most expensive among Gresham's neighborhoods). Rockwood and Wilkes East, while growing very fast in populations of color (40.1% and 24.4% per year, respectively), also lost approximately 10 percent of their non-Hispanic White residents. City Central, Centennial, and Northeast, growing at or just above the city-wide rate for non-Hispanic Whites, experienced average and above average growth rates among most racial-ethnic minorities. In 2000, the largest shares of racial-ethnic minorities were in Rockwood (41.7%), City Central (36.3%), and Wilkes East (25.9%).

TABLE 1-11. AVERAGE HOUSEHOLD SIZE BY RACE OR ETHNICITY OF HOUSEHOLDER, GRESHAM, 2000

Households with a Householder who is:	Average Household Size
White Alone not Hispanic or Latino	2.51
Black or African American Alone	2.78
American Indian & Alaska Native Alone	3.06
Asian Alone Householder	3.13
Native Hawaiian & Other Pacific Islander Alone	3.07
Some Other Race Alone	4.38
Two or More Races	3.20
Hispanic or Latino	4.25

Since post-2000 American Community Survey (ACS) data are not available for sub-areas or are unreliable, data on births by mother's race and Hispanic origin are used to describe recent racial-ethnic trends in Gresham's neighborhoods (see Table 1-12, next page). All neighborhoods but Hollybrook saw an increase in births to mothers of color between 2000 and 2004, with the greatest growth taking place in Centennial, North Central, Kelly Creek, and Wilkes East. Although Gresham Butte saw births to mothers of color increasing 4-fold, the numbers are

too small for rates to be meaningful (2 births in 2000, 8 births in 2004). In three neighborhoods, births to mothers of color comprised more than 50 percent of all births in 2004: Wilkes East (65%), Rockwood (61%), and City Central (56%).[22] In 8 other neighborhoods, between 24 and 47 percent of all births were to mothers of color.

TABLE 1-12. BIRTHS BY MOTHER'S RACE OR ETHNICITY BY NEIGHBORHOOD, 2000-2004

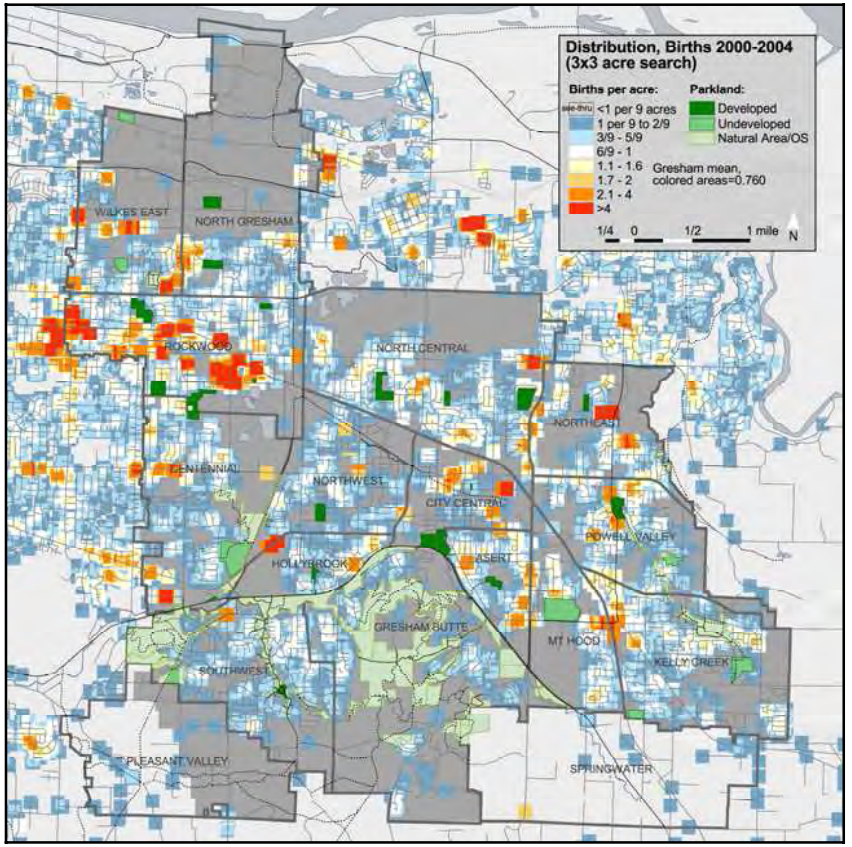
	Births to White* mothers		Ann. growth	Births to all mothers of color		Ann. growth	Births to Hispanic mothers		Ann. growth
Neighborhoods	2000	2004	%	2000	2004	%	2000	2004	%
ASERT	35	39	2.9	12	19	14.6	11	12	2.3
CENTENNIAL	64	75	4.3	21	55	40.5	15	36	35.0
CITY CENTRAL	33	24	-6.8	25	30	5.0	20	29	11.3
GRESHAM BUTTE	28	39	9.8	2	8	75.0	0	4	*n/a*
HOLLYBROOK	45	58	7.2	16	9	-10.9	8	6	*-6.3*
KELLY CREEK	69	102	12.0	13	25	23.1	8	17	*28.1*
MT HOOD	58	42	-6.9	9	16	19.4	8	9	*3.1*
NORTH CENTRAL	109	85	-5.5	37	74	25.0	28	54	23.2
NORTH GRESHAM	51	42	-4.4	14	23	16.1	9	15	16.7
NORTHEAST	69	54	-5.4	29	31	1.7	20	25	6.3
NORTHWEST	56	51	-2.2	13	16	5.8	7	8	3.6
POWELL VALLEY	57	61	1.8	31	32	0.8	23	26	3.3
ROCKWOOD	171	141	-4.4	184	219	4.8	150	183	5.5
SOUTHWEST	70	49	-7.5	12	13	2.1	8	2	-18.8
WILKES EAST	50	38	-6.0	38	70	21.1	25	43	18.0
TOTAL	965	900	-1.7	456	640	10.1	340	469	9.5

* White non-Hispanic.

Births to Hispanic mothers account for 72 percent of all births to mothers of color in 2004 - and this share has been growing. In only one neighborhood, the share is below 50 percent (Hispanic births make up only 15 percent of all births in Southwest; out of 13 births to mothers of color, 9 were to Asian or Pacific Islander mothers). In the remaining 14 neighborhoods, between 50 and 97 percent of all births to mothers of color are to Hispanic mothers. City-wide trends indicate that growth in births to mothers of color and, particularly, to Hispanic mothers, is likely to continue. By contrast, births to White non-Hispanic mothers declined city-wide, from 965 births in 2000 to 900 births in 2004. Neighborhoods with the lowest population growth rates (Wilkes East, Northeast, Powell Valley, and Mt. Hood) saw some of the sharpest declines in births to White non-Hispanic mothers, while growth in births to mothers of color has been too small to offset declines.

Map 1-11 shows the distribution of all births during the 2000-04 period (regardless of race). Blues and white are relatively low densities, while yellow-to-red are progressively higher densities. Although births are fairly widespread, the highest concentrations are found in Rockwood. Rockwood's share of all Gresham's births during the period (23.8%) is larger than its share of total Gresham population in 2005 (15.5%).

MAP 1-11. DISTRIBUTION OF BIRTHS IN & AROUND GRESHAM 2000-2004



NEIGHBORHOODS (forecasts)

The neighborhood-level population forecasts rely on the *Housing Units method*, which predicts future populations based primarily on known and expected housing trends. Neighborhood demographic data and trends, presented above, inform assumptions about likely future housing and demographic rates, such as housing occupancy and average household size. Additionally, analysis of land use data, such as zoning code or vacant land available for future housing units, underlies estimates for housing development capacity in each neighborhood, which can be thought of as modeling the spatial characteristics of each neighborhood. Growth expectations of regional and local planners are also considered, most importantly for the Pleasant Valley and Springwater forecasts.

Separate housing-unit models are first developed for each neighborhood, then their combined results are controlled by the city-wide cohort-component forecast. Since Pleasant Valley and Springwater are little developed and are not a part of Gresham, their populations are forecasted separately from other neighborhoods.

Based on these analyses, all Gresham's neighborhoods, except Hollybrook, are expected to grow over the next 14 years (Table 1-13). Most of them will grow only slightly.

- Gresham Butte will sustain the fastest growth, at 4.8 percent per year between years 2005 and 2020
- Kelly Creek, Southwest, and Northwest follow (at 2.0, 1.5, and 1.3 percent per year, respectively)
- remaining neighborhoods will grow at rates lower than the city-wide growth rate of 1.0 percent per year
- Hollybrook is expected to shrink slightly between 2010 and 2020, with an average annual decline of 0.2 percent during the 2005-2020 period
- North Gresham will shrink slightly between 2010 and 2020; however, on average it is expected to grow by 0.1 percent per year between 2005 and 2020.

In most cases, growth will be fastest during the first 5-year interval and it will gradually decline thereafter. Four neighborhoods will see slightly faster population growth during the 2010-2015 interval. Growth in Mt. Hood will accelerate during the 2010-2015 interval, by 1.0 percentage-point, but level-off afterward.

TABLE 1-13. POPULATION FORECASTS BY NEIGHBORHOOD, 2005-2020

	TOTALS				Average Annual Growth Rates (%)			
Neighborhoods	2005	2010	2015	2020	2005-10	2010-15	2015-20	*2005-20*
ASERT	3,168	3,184	3,233	3,254	0.1	0.3	0.1	0.2
CENTENNIAL	8,778	8,936	9,095	9,170	0.4	0.4	0.2	0.3
CITY CENTRAL	3,063	3,252	3,402	3,498	1.2	0.9	0.6	0.9
GRESHAM BUTTE	5,155	6,859	7,888	8,912	6.6	3.0	2.6	4.9
HOLLYBROOK	4,463	4,504	4,417	4,335	0.2	-0.4	-0.4	-0.2
KELLY CREEK	8,307	9,047	9,957	10,758	1.8	2.0	1.6	2.0
MT HOOD	3,983	4,031	4,278	4,484	0.2	1.2	1.0	0.8
NORTH CENTRAL	10,412	10,578	10,850	11,028	0.3	0.5	0.3	0.4
NORTH GRESHAM	5,237	5,409	5,398	5,352	0.7	0.0	-0.2	0.1
NORTHEAST	6,068	6,367	6,578	6,791	1.0	0.7	0.6	0.8
NORTHWEST	5,510	5,800	6,232	6,603	1.1	1.5	1.2	1.3
POWELL VALLEY	6,748	7,283	7,523	7,694	1.6	0.7	0.5	0.9
ROCKWOOD	15,152	15,640	15,934	16,143	0.6	0.4	0.3	0.4
SOUTHWEST	7,188	7,859	8,373	8,779	1.9	1.3	1.0	1.5
WILKES EAST	4,840	5,136	5,248	5,312	1.2	0.4	0.2	0.7
TOTAL	98,072	103,885	108,406	112,113	1.2	0.9	0.7	1.0

TABLE 1-14. POPULATION FORECASTS, PLEASANT VALLEY & SPRINGWATER, 2005-2020

	TOTALS				Average Annual Growth Rates (%)			
Area	2005	2010	2015	2020	2005-10	2010-15	2015-20	*2005-20*
PLEASANT VALLEY	523	901	1,757	3,844	14.4	19.0	23.8	42.3
SPRINGWATER	675	922	1,300	1,882	7.3	8.2	9.0	11.9

PLEASANT VALLEY & SPRINGWATER[23]

Communities of Pleasant Valley and Springwater have seen very slow development over the past 70 years and largely retain their rural character. While larger in area than two-thirds of Gresham's neighborhoods, Pleasant Valley and Springwater populations are 10-20 times smaller, approximately 520 and 675 persons, respectively, as of January 1, 2006 (approximately 175 persons reside in the recently Gresham-annexed portion of Pleasant Valley). Housing-unit densities do not exceed 2 units per 10 acres, while most units are single-family homes (see Table 1-15). Housing sale prices have grown fast over recent years: Between roughly 1995 to 2005, median sale prices grew 57 percent in Pleasant Valley and 93 percent in Springwater, hitting $352,400 and $223,500 in each community, respectively. Increasing prices are one indicator of increasing demand in the two communities. In addition, locations around the two communities have seen some of the fastest housing growth in the larger Gresham area.

Based on growth expectations of regional and local planners,[24] on historical and recent growth trends, on land use analysis, and on the housing-units method for population forecasts, both Pleasant Valley and Springwater are expected to see an acceleration of housing construction and related strong population growth over the next 14 years (see Table 1-14). Approximately 125 housing units will be built in Pleasant Valley by the end of 2010; 85 units in Springwater. These translate into an average population growth rate of 14.4 percent per year in the former and 7.3 percent per year in the latter. Growth is expected to continue to accelerate the following two 5-year intervals.

TABLE 1-15. PLEASANT VALLEY & SPRINGWATER HOUSING AND HOUSEHOLD CHARACTERISTICS, JANUARY 2006

	PLEASANT VALLEY	SPRINGWATER
Housing units	182	235
SFRs, %	98.9	97.8
MFRs, %	1.1	0.9
Other, %	0.0	1.3
Housing units per acre	0.17	0.17
Median year built	1963	1961
Units built after 3/2000, %	2.2	1.7
Median price, 2005	$352,415	$223,510
% change in price, 1995-2005	57.1	93.3
Median price per sq. foot, 2005	157.44	171.31
Household size, 2000	3.00	3.17
Household size, SFRs	2.97	3.31

METHODS & ASSUMPTIONS

The Housing-units method utilized predicts future populations based on known and expected changes in housing and household characteristics in an area.[25] As with the cohort-component model, the most recent Census is used as a base year to which post-Census changes in housing stock (by type) are added, producing estimates for current housing stock. To estimate post-Census changes, taxlot-level housing units data by housing type and year-built are examined, and housing units built between the 2000 Census and December 31, 2005 are selected.[26] Current estimates by neighborhood become inputs into the models to forecast total units in years 2010, 2015, and 2020.

The spatially limited geographies of neighborhoods are modeled by estimating an upper limit beyond which housing development will likely become constrained (‘unit capacity’ or ‘build-out potential’). Capacity estimates followed the methods used by both City of Gresham Planning and Metro.[27] For each neighborhood, buildable land by zoning class is identified, net-acres totaled, and net-acres are multiplied by unit-potential coefficients based on

City of Gresham zoned-minimum and average housing densities. This produces a conservative range of values for the number of additional housing units each neighborhood's vacant land can hold. Then, redevelopment and infill potentials are estimated by multiplying potential development on vacant land (by broad type-classes) by a 'refill rate' used by Metro (i.e. the number of units built on non-vacant land typically is a fraction of the amount built on vacant land; the rate used is 25%).[28] Added together, vacant-potential and refill-potential produce total unit capacity by housing type (SFR, MFR) by neighborhood. In the models, these figures are used as rough thresholds near which and beyond which housing unit growth becomes increasingly unlikely.

Next, several functions are developed to describe historical housing growth trends by type for each neighborhood (see Appendix, pp. A8-A9, for housing growth trends since 1935, by neighborhood). Most-likely future growth trends fit historical trends the best while also being constrained by each neighborhood's units-capacity. Using these functions, future housing units can be calculated for the years 2010, 2015, and 2020.

To translate housing units into population, 1990-2000 trends in *housing occupancy rates* by housing type by neighborhood are examined. In most cases, rates for the year 2005 were calculated as weighted averages of 1990 and 2000 rates (see Table 1-16). Post-2005 rates were calculated as weighted averages of the two preceding intervals. Multiplying forecasted housing units by expected housing occupancy rates produce *occupied housing units* (households) for the years 2005, 2010, 2015, and 2020 (calculations are carried out separately for three housing types: SFR, MFR, and Other).

Next, future *average household size* by housing type by neighborhood is estimated from 1990-2000 trends in average household size, racial-ethnic composition, and recent trends in births by mother's race/ethnicity. Multiplying forecasted households by expected average household size produces *household population* for years 2005, 2010, 2015, and 2020 (again, calculations are carried out separately for SFR, MFR, and Other).

Household populations by housing type by neighborhood are added together to derive total household population, and group quarters populations are added to the latter to produce *total population* by neighborhood (assumes group quarters populations will remain at the year-2000 level).

TABLE 1-16. NEIGHBORHOOD POPULATION FORECASTS: ESTIMATED 2005 DEMOGRAPHIC RATES

	Vacant units '05		Ave. HH size, 2005		Persons
Neighborhoods	*SFR, %*	*MFR, %*	*SFRs*	*MFRs*	in GQ
ASERT	3.3	5.5	2.45	3.06	46
CENTENNIAL	4.3	8.5	3.02	2.57	236
CITY CENTRAL	2.1	5.5	3.24	2.51	144
GRESHAM BUTTE	0.9	5.4	2.95	2.10	0
HOLLYBROOK	1.6	5.5	3.23	1.98	63
KELLY CREEK	3.0	5.6	3.05	1.99	9
MT HOOD	5.0	5.8	2.44	2.31	3
NORTH CENTRAL	1.8	7.4	2.73	2.32	51
NORTH GRESHAM	4.3	10.7	2.82	2.33	14
NORTHEAST	1.9	6.0	2.69	2.26	196
NORTHWEST	3.0	5.8	2.71	1.92	47
POWELL VALLEY	1.8	5.5	3.07	2.68	110
ROCKWOOD	3.0	6.8	3.08	3.09	108
SOUTHWEST	2.0	6.0	2.94	2.17	0
WILKES EAST	1.9	8.3	2.92	2.15	94

Finally, forecasted 2005-2020 population numbers from the cohort-component model are used as *control totals* for the sum of forecasted neighborhood populations. Differences between city-wide forecasted populations for each year are reconciled based on the share of each neighborhood's population in the sum of neighborhood populations (note that this step does not apply to Springwater or Pleasant Valley forecasts).

Many factors affect the *reliability* of forecasts. Such factors include: changes in national or local economic conditions, which could leave Gresham more or less attractive to prospective in-migrants; modifications to state, regional, or local land-use laws and regulations affecting the location and types of housing development allowed; changes in immigration laws that influence the size and composition of international migration; and changes to reproductive behavior that significantly change existing trends

in the number and timing of births. The longer the forecast horizon, the less certain predictions become. When new information becomes available, such as results of the 2010 Census of Population and Housing, it will be prudent to review and revise these forecasts.

PART II SUMMARY

- Gresham's population will continue to grow over the next 14 years reaching approximately 112,100 people by 2020.
- Growth rates will gradually decline from 1.2 percent per year during the 2005-2010 interval to 0.7 percent per year during the 2015-2020 interval. Growth rates will remain higher than County rates, but trail Portland-Metro area rates.
- Gresham's population will grow older: the share of persons 65 years and over is expected to increase, while the share of children and teens remains fairly stable and the share of working age-adults slightly declines.
- Future population growth trends vary by neighborhood. Gresham Butte is expected to see the fastest growth between 2005 and 2020, while Hollybrook is expected see a slight decline.
- Taken together, Gresham Butte, Kelly Creek, and Northwest are expected to contribute over half to Gresham's total population growth between 2005 and 2020.
- In most neighborhoods, growth will be faster at the beginning of the forecast period and will gradually decline thereafter.
- Springwater and Pleasant Valley will experience relatively slow growth at the beginning of the forecast period, with growth accelerating in each subsequent 5-year interval.

Section I Endnotes

[1] Source data for chart: "July 1, 2006 Population Estimates for Oregon" (2006). Population Research Center, Portland State University.
[2] Net migration is the balance between in- and out-migration.
[3] 2004 is the most recent year for which an actual count of births within Gresham city boundaries was available when the study was conducted. Source: Center for Health Statistics, Public Health Division, Oregon Human Services Department, 1990-2004.
[4] The decline in births was due to fewer births to White Non-Hispanic mothers: such births decreased by 3.8 percent in Multnomah County and by 4.8 percent Metro-wide between 2000 and 2004. The decline would have been stronger if not for an increase in births to mothers of color and, particularly, to Hispanic mothers: county- and Metro-wide, births to Hispanic mothers grew by 2.1 percent and 3.1 percent, respectively, during the years 2000-2004, and reached 17 percent of all births in the County and 19.1 percent of all births in Metro in 2004.
[5] 2005 population by age and sex was estimated as a part of Gresham's 2020 population forecasts.
[6] See, for example, "Overview of Race and Hispanic Origin: 2000" by Elizabeth M. Grieco and Rachel C. Cassidy, U.S. Department of Commerce, Economics and Statistics Administration, U.S. Census Bureau, online at http://www.census.gov/prod/2001pubs/c2kbr01-1.pdf. Brief explanations prepared by the Census Bureau are available as well at:
http://factfinder.census.gov/home/en/epss/glossary_r.html,
www.census.gov/population/www/socdemo/race/racefactcb.html,
and http://www.census.gov/mso/www/rsf/racedata/sld018.htm,
among others.
[7] Additionally, populations of color are more likely to be under-counted by the Census, particularly Black or African Americans and Native Americans. See, for example:
Mule, Thomas (2002a), "Revised Preliminary Estimates of Net Undercounts for Seven Race/Ethnicity Groupings," DSSD A.C.E. Revision II Memorandum Series PP-2; U.S. Bureau of the Census; April 4, 2002.
Kostanich, Donna L., and Dawn E. Haines (2003), "Census 2000 Accuracy and Coverage Evaluation Revision II," American Statistical Association Joint Statistical Meetings, 2003 Proceedings of the Section on Survey Research Methods.
[8] After the 2000 Census, population and housing data, including data on race and ethnicity, have been collected on an on-going basis by the American Community Survey (ACS). Post-2000 racial-ethnic trends in the City of Gresham and Multnomah County are evaluated using ACS 3-year average estimates. Comparable ACS data are not yet available for the Metro region or for sub-areas within the city. Single-year ACS data were reviewed and in most cases rejected due to extremely atypical trends and patterns that indicate bad data.
[9] For 1980-2000 trends, see also Appendix 2 of, "Gresham Socioeconomic Profile," Gresham Comprehensive Planning. "This report contains a 'Market/Socioeconomic Profile' for the City of Gresham. The profile describes conditions and trends to provide a factual basis for future policy decisions."
[10] The above discussion has omitted persons of Other races: they constituted no more than 0.2 percent of populations in Gresham, Multnomah County and the Portland-Metro area.
[11] Here and following, the term "non-Hispanic" is assumed for each racial category, as in White Non-Hispanic, Black Non-Hispanic, and so on.
[12] Housing unit counts post-2000 Census are derived primarily from taxlot-level assessor data attached to Metro's Regional Land Information System 'taxlot' file (DRC/Metro). Other sources include City of Gresham GIS and Multnomah County.
[13] Source: 3-Year Average ACS Profiles for Gresham and Multnomah County for 2000-2002 and 2003-2005.Comparable ACS data are not yet available for the Metro region.
[14] To calculate what percentage of occupied housing units was rented, percentage owned needs to be subtracted from 100 percent.
[15] The other type of household is the "non-family": persons living alone or with unrelated individuals, such as roommates.
[16] Comparable American Community Survey data are not yet available for the Metro region.
[17] Forecast intervals, dates, periods, etc. can be confusing. The forecast begins with data through the year 2005, akin to January 1st 2006, and subsequent forecasted years fall 5 years later, at the end of each 5-year interval. But years need to be read such that 1 year spans 2 years as-written. For example, Jan. 1st 2005 to Jan. 1st 2006 is one year, even though there are two years written (i.e. 2005 and 2006).

[18] Population forecasts for Multnomah County and the tri-county Metro produced by Office of Economic Analysis, State of Oregon, in 2004.
[19] Total Fertility Rate (TFR) measures children per woman over a lifetime if current age-specific fertility rates remain unchanged. “Replacement level” is 2.1 children per female.
[20] In 2000, the average size of owner-occupied housing units in Gresham was 2.78 persons, while renter-occupied housing units averaged 2.54 persons.
[21] In 2000, households renting single-family detached homes in Gresham had, on average, 3.11 persons. Households owning single-family detached homes averaged 2.96 persons.
[22] Births to all mothers regardless of race or ethnic origin.
[23] Note: there are slight differences in the geographic extent and boundaries of Pleasant Valley and Springwater communities in this study versus those in "Pleasant Valley Plan District" and "Springwater Community Plan" documents (see next endnote for references). The boundaries used were based on spatial data given to PRC by GPRD.
[24] "Metroscope Gen 2.3 - Year 2030 TAZ Allocation (Excel)," *Metroscope Gen 2.3 Jurisdiction-Reviewed 2030 Regional Forecast Allocation*, Metro. May 3, 2006. Online at http://www.metro-region.org/article.cfm?ArticleID=15103

"Chapter 5. Land Use Plan," *Pleasant Valley Plan District*, CPA 04-1480, City of Gresham Community & Economic Development Department. January 6, 2005.

"Urban Growth Management Functional Plan (UGMFP) Title 11 Compliance Report." *Springwater Community Plan*, CPA 04-8178, City of Gresham Community & Economic Development Department; Department of Environmental Services. September 20, 2005.

"Brickworks Staff Report Addendum", Exhibit “B”, CPA 05-6208, *Brickworks/Heavy Industrial Plan District Amendment*, City of Gresham Community & Economic Development Department. October 13, 2006.
[25] For a discussion, see "The Methods and Materials of Demography" (2004), 2nd edition, J. S. Siegel & D.A. Swanson, Eds., p. 550.
[26] Taxlot-level assessor data have been extensively analyzed to produce housing unit totals; the data do not come with unit totals. Aerial imagery, estimates based on building size, particularly for missing data for multi-family units, areal interpolation of nearby structures, and other methods, have been used to supplement units-estimates, also at the taxlot-level, developed by Multnomah County GIS. The core taxlot file source is Metro’s RLIS August 2006; this file contains year-built data into 2006, but typically does not include all parcels built to the source date. Typically, a lag time of at least half a year exists; therefore, the housing units estimates have been truncated to the ‘through-2005 period’, assuming the Aug. 2006 dataset contains most if not all parcels built through 2005.
[27] Metro's report: "2002-2022 Urban Growth Report: A Residential Land Need Analysis," Final Report - December 2002, Appendix A, Item #3, Ordinance 02-969. Online at www.metro-region.org/library_docs/land_use/ugr-land.pdf.
[28] See above source.

SECTION II.
PARKS ACCESS
ANALYSES

PARKLAND INVENTORY

The inventory map at right shows parkland in and around Gresham, focused on the Gresham Parks & Recreation Division parkland ***inventory by type***. Types include Neighborhood Parks **(NP)**, Community Parks **(CP)**, Open Space/Natural Areas **(OS)**, and Trails **(TRL)**. Types are also coded for ***developed/existing, undeveloped/proposed***, and by whether some type of shared ownership and/or operation arrangement exists (this condition is primarily relevant to OS, where a lower case "s" has been added to some OS labels). The table lists facilities as labeled on the map, followed by facility name/type, area in acres, and type code. In many or most instances, names and acreage figures for Open Space features are, to an extent, PRC creations. Open spaces in the underlying spatial data often exist as numerous, contiguous 'shapes' - roughly 130 - and these have been aggregated to only about 23 shapes. These aggregations are given descriptive names, which were taken from the source data. Sometimes, however, seemingly esoteric names for individual parcels have been given up, as the parcel becomes subordinate to the larger aggregation of which the parcel is part. The larger aggregation can thus assume an identity; it can be identified on a map; and it can be talked about in the context of residents having access to it. This is most relevant for features in the Gresham Butte area.

The inventory map also includes park facility ***access points*** used in subsequent access analyses. Note that access points shown on the map are primary uses, yet often, a single point location provides access to more than 1 parkland type. Access points at N-12, Butler Creek NP, for example, are color-coded blue and called 'park access points'. But these also serve as access points to the Butler Creek Greenway Trail and to Butler Creek Greenway itself. The source for most access points, except most of those belonging to trails, is GPRD. However, the original data have been cleaned for use in the type of network analyses performed in this study: the features that access points access have been identified; the points have been given ids; redundant points - redundant in terms of the precision that can be achieved from the types of distance measurements performed - have been eliminated; and all access points for trails have been 'noded' with the street network.

To the *street network*, ***trails, existing and proposed***, have been added and are used in network-distance analyses where appropriate. Note that trails in the inventory map are not always exactly the same as trails in GPRD or Metro inventories, and sometimes, if a trail is close to a street or along a street in the real-world, the street doubles as a trail in the spatial data set.

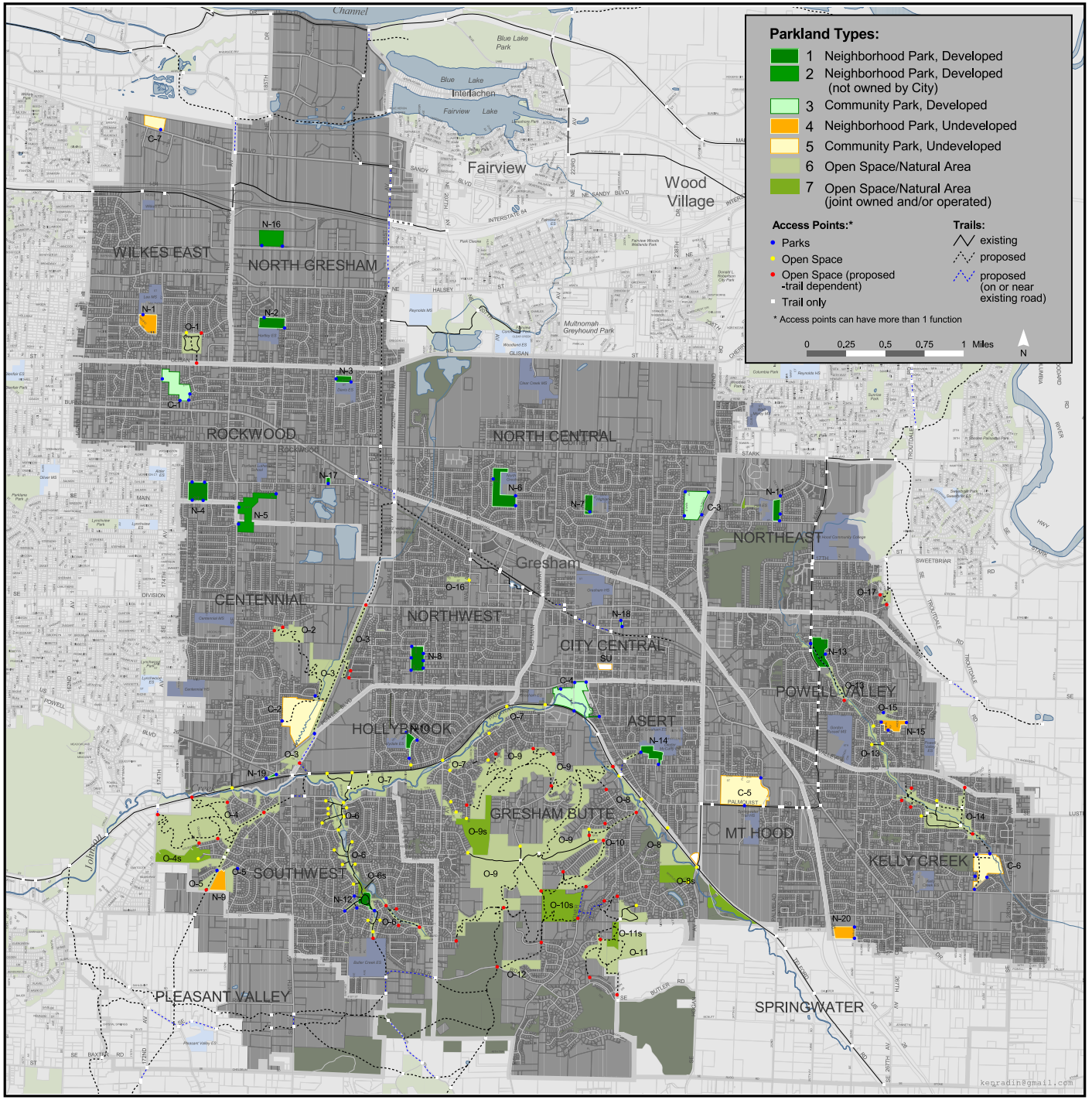
Additional map features do not appear in the legend, as they are less important than GPRD parkland. Nevertheless, they can be relevant to parks access analyses; to an assessment of existing conditions. ***Schools*** can offer park-like services. These are pale blue and violet features in or out of Gresham, labeled by name (these labels are difficult to make out on the map, as the map is designed to be larger, but a separate file that can be printed larger is included with this report). All other parkland, including open space, is a faded dark green within Gresham and a pale light green outside of Gresham. For example, Persimmons Country Club, straddling the Gresham Butte/Springwater border, and Gresham Country Club in the Northeast neighborhood (both private) mostly fall within Gresham boundaries and are a faded dark green; much Metro-owned open space west of Persimmons is a faded dark green. ***Other parkland outside*** Gresham, such as Powell Butte Nature Park and Parklane Park in east Portland, or Columbia and Sunrise parks in Troutdale, appear a pale green. Most of these features - schools in or out of Gresham, parks outside of Gresham - are considered in the Model 4 analysis.

Finally, at the bottom of the table appear ***somewhat odd-ball features***. Most are shapes found in GPRD's open space spatial data; most function as trails or paths and were added to the street network. Hogan Shop Trailhead is treated as a trail access point. And the "Cultural Arts Center Site" in City Central neighborhood is ignored - although it could have been, or could be considered, an undeveloped special use destination (labeled "SU" on the map).

Although the inventory map represents a clean, carefully considered set of spatial data - from parkland to street network - compiled from the best possible sources, undoubtedly some errors remain unseen. PRC regrets any errors.

LABEL	Facility Name/Type	Area (acres)	Type Code
N-1	Columbia View UNP	7.5	4
N-2	Kirk NP	7.0	1
N-3	Davis NP	2.6	1
N-4	Rockwood Central NP	9.4	1
N-5	Vance NP	14.5	2
N-6	North Gresham NP	13.4	1
N-7	Aspen Highlands NP	4.0	1
N-8	Bella Vista NP	8.1	1
N-9	Jenne Butte UNP	6.2	4
N-10	Hollybrook NP	2.6	1
N-11	Hall NP	3.9	1
N-12	Butler Creek NP	4.0	1
N-13	Kane Road NP	10.3	1
N-14	Thom NP	5.5	1
N-15	East Gresham UNP	5.6	4
N-16	John Deere Field NP	9.5	2
N-17	Yamhill NP	0.7	1
N-18	Cedar NP	0.3	1
N-19	Linneman Station NP	0.5	1
N-20	Southeast UNP	6.3	4
	Total acres, developed:	**96.2**	
	undeveloped:	**25.5**	
C-1	Pat Pfeifer CP	13.3	3
C-2	Southwest UCP	34.1	5
C-3	Red Sunset CP	14.2	3
C-4	Main City CP	21.3	3
C-5	Gradin Sports UCP	33.0	5
C-6	Southeast UCP	16.2	5
C-7	Zimmerman House UCP	6.0	5
	Total acres, developed:	**48.8**	
	undeveloped:	**89.3**	
O-1	Nadaka OS	9.9	6
O-2	Grant Butte OS	21.3	6
O-3	Fairview Creek Headwaters	31.2	6
O-4	Jenne Butte OS	101.7	6
O-4s	Jenne Butte OS	15.7	7
O-5	Jenne Butte NP OS	9.2	6
O-6	Butler Creek Greenway	31.0	6
O-6s	Butler Creek Greenway	2.1	7
O-7	Johnson Creek West OS	79.5	6
O-8	Johnson Creek East OS	26.8	6
O-8s	Johnson Creek East OS	26.7	7
O-9s	Gresham Butte OS	26.3	7
O-9	Gresham Butte OS	259.9	6
O-10	Children's World OS	25.5	6
O-10s	Children's World OS	29.6	7
O-11	Hogan Butte OS	45.6	6
O-11s	Hogan Butte OS	5.2	7
O-12	Butler Ridge OS	9.1	6
O-13	Kelly Creek Greenway North	12.4	6
O-14	Kelly Creek Greenway South	36.7	6
O-15	East Gresham NP OS	2.3	6
O-16	Townfair Terrace Greenway	2.9	6
O-17	Casacade Glen OS	3.4	6
	Total acres:	**813.9**	
Cultural Arts Center Site		2.1	9
Hogan Shop Trailhead		1.5	9
Hall ES Path		0.4	6
Hall ES Path		0.5	7
Open Space 29 Park Strip NW 7th St		0.1	9
Proposed Path, Thom NP to SW Trail		1.0	9
Willow Heights (path to Butler Creek ES)		0.0	9
Shimmering Pines (path to SW trail)		0.1	9
Hollybrook ES Greenway-Path		0.5	9

* Type code 9 - other use



PARKS ACCESS OVERVIEW

Models developed and described in the following pages integrate ideas that existed at the beginning of the project as well as ideas communicated to PRC as the project progressed. Following GPRD's lead, access to parkland focuses on the typologies mentioned above (NPs, CPs, OS, and TRLs). In addition, access to each of these types have been combined, in one of the models, for scenarios under developed/existing conditions and under proposed conditions (i.e. as if currently undeveloped and proposed parkland, including trails, were developed). The need for analyses for both 4 parkland typologies, on the one hand, and existing and proposed conditions, on the other, makes for many, many spatial data layers. Every attempt has been made to include graphics and information for layers relevant to the models in order to make them as transparent as possible.

One other major development to original ideas reflects GPRD's 'new performance measures', which establish preferred service area sizes for the parkland types. Network distance measurements in this study incorporate the logic of the service area sizes by using significant distance increments by parkland type. The new performance measures set a 1-mile preferred service area for community parks and natural areas, and a 1/2-mile preferred service area for neighborhood parks and trails. In the models, these sizes are reflected in the distance increments and point values a given location receives: 2 points, for example, for locations a 1/2-mile away from a neighborhood park or trail access point, yet 2 points for locations 1-mile away from a community park or natural area. The new performance measures also require calculations for percent population served, service for a given location being a function of falling within the parkland-type service areas. These have been calculated for both existing and proposed conditions.

The term "model," used plurally, refers to any of the 3 over-arching summary spatial data layers included in the following pages. Each model is made up of 4 or more individual layers that have been combined to produce one summary spatial data layer. Although the summary layers, the models, are good at showing the result of many inputs, it is often just as, or more useful, to examine the individual input layers. Following this logic, presentation of 3 summary models, rather than just one, preserves the option of examining the combined results of some of the input layers, such as distances to the park types, rather than only one model with all layers. This can foster a better understanding of why one location or another fairs better or worse.

The remaining portion of Section II is organized according to the following outline:

The Basic Approach to all Models

Model 2 Score, Developed/Existing Conditions
- input layers

Model 2 Score, Developed & Proposed Conditions
- input layers
- 'proposed gains'
- new performance measure summaries for preferred service area sizes, by parkland type

Model 3 Score: Adding the Park 'Quality' Layer
- developed NPs & input layers
- developed CPs & input layers

Model 4 Score: Adding 'Out' Parks and Schools
- out-parks network-distance layer
- schools network-distance layer

Other considerations: Sidewalk Continuity
- sidewalk inventories
- sidewalk network-distance layers

THE BASIC APPROACH

Since the parkland typologies are important to GPRD's plans, the basic approach to measuring parkland access (which 'access' can also be thought of as service) focuses on those typologies. ***The basic approach says a location has the best access if it is closest to all parkland types.*** Measuring distances along the street and trail network to parkland access points (using vector analysis), distances are converted to classes related to the new performance measures, and distance points to each parkland type are simply added together to produce a single score:

NP distance points (0-4) +
CP distance points (0-4) +
OS distance points (0-4) +
TRL distance points (0-4) = SCORE (0-16)

Locations along the street network fall within one of the distance-classes by parkland type, such as 1/2 to 3/4-mile from a neighborhood park, which earns that location 2 points. It may also fall within the distance-classes of another parkland type, say 1/2 to 1 mile from a community park, which earns that location an additional 3 points. If the location were more than a mile from trails and 2 miles from natural areas, which are the maximum point-awarded thresholds beyond which a location receives zero points, the total score for that location would equal 2 + 3 = 5 points. Based on these distance- and point-increments, the best-served locations would fall within a 1/4-mile of a neighborhood park and trail access point, and a 1/2-mile of a community park and natural area. These locations would receive 16 points. Locations more than a mile from a neighborhood park and trail, and more than 2 miles from a community park and natural area, receive no points, as these locations are considered too far away from the parkland features to be served in any meaningful way.

The logic of the basic approach extends to the addition of other layers, but not before a few nuances are introduced.

First, the above model, which is *Model 1*, is not even included in this document, except as an illustration of the basic approach. The individual spatial data layers (with one exception) in all the models have been scored in simple 4-point classes to facilitate their use in alternative iterations performed by GPRD. This allows each layer to be given a weight without consideration of the individual layer classifications. Each layer can be weighted easily - by being multiplied by a weighting coefficient. That has already been done once to *Model 1*, which produces Model 2.

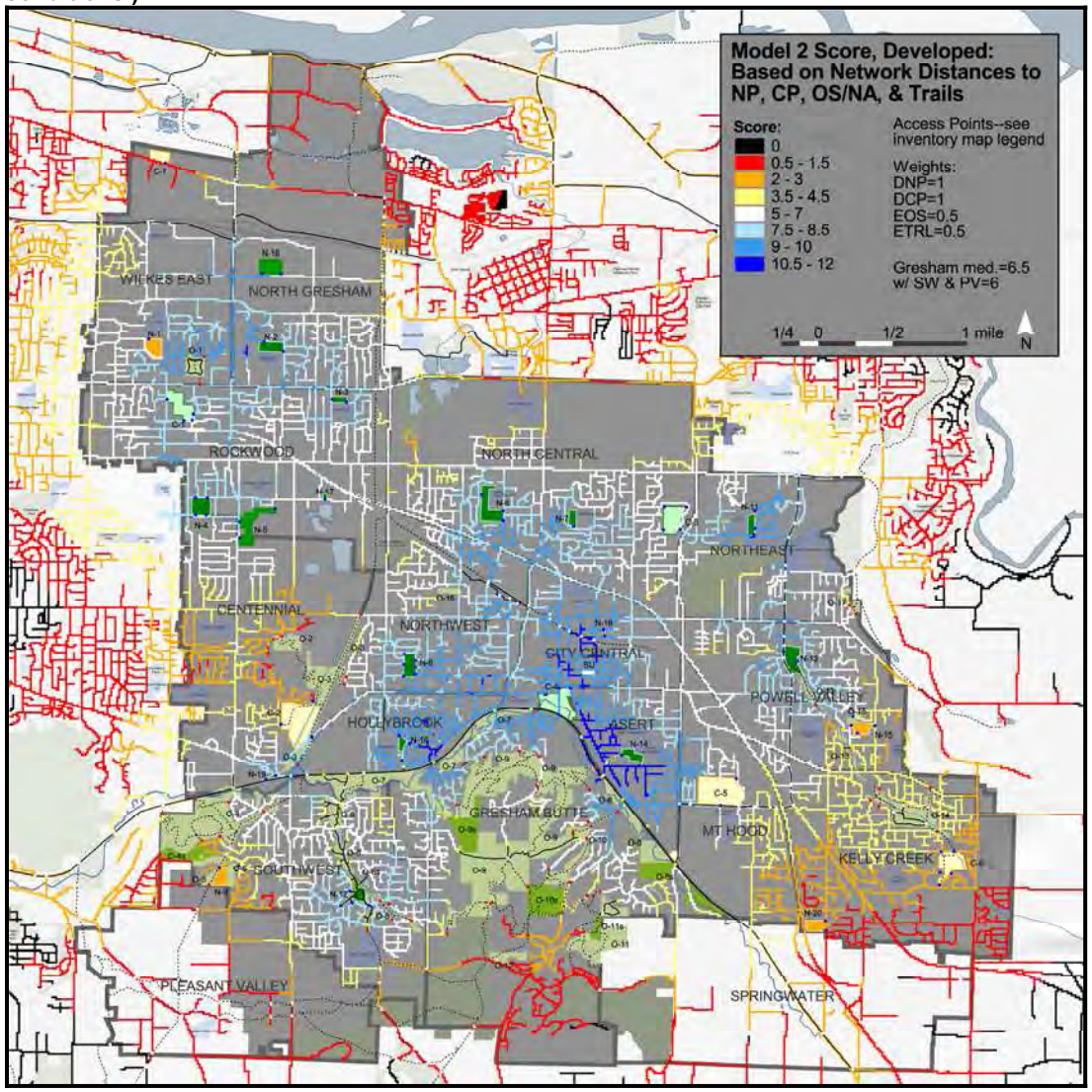
Proximity to natural areas/open space and trails are not given the same weight as proximity to a neighborhood park or a community park in ***Model 2***, the first model presented below. Instead, *Model 2* weights OS and TRL layers at half the value of the distance to community parks and neighborhood parks layers, where proximity to both open space and a trail earns a location the same point value as proximity to either a neighborhood park or a community park. In other words, in *Model 2*, the combination of natural area and trail is considered roughly equivalent to a park. If this kind of weighting were not done, the result would show some areas served better or worse than common sense would dictate. Thus, in *Model 2*, the OS and TRL layers are multiplied by 0.5 before being added together to produce the summary score layer. This results in a range of values from 0-12 rather than 0-16. Subsequent models use the same weights for the NP, CP, OS, and TRL layers.

The second nuance added to Model 1 is the addition of a 'parkland quality' layer for developed GPRD parks, implemented in ***Model 3***. Developed GPRD neighborhood and community parks have been assigned to a relative quality-class according to the number of facility types at each park (based on GPRD's facilities inventory) and the size of each park. This is implemented in *Model 3* as a multiplier that slightly attenuates the distance points for neighborhood and community park layers used in Model 2 before being reclassified and added to the distance-points for OS and TRL layers.

Finally, the third addition to Model 1 considers proximity to parks outside of Gresham boundaries ('out-parks') and schools, both of which can provide park or park-like services. These additions are presented in ***Model 4***. Model 4 simply adds to Model 3 a network distance layer for 'out parks' and a network distance layer for schools.

THE MODELS: MODEL 2

MAP 2-1. MODEL 2 SCORE: DEVELOPED/EXISTING GPRD PARKLAND (a.k.a. 'existing conditions')



When interpreting the models, note that scores and colors outside of Gresham, Springwater, and Pleasant Valley exist only as a rough comparison to conditions within Gresham. Trail access points outside of Gresham are included in the view analysis.

Model 2 considers network distances to the 4 GPRD parkland types and a weighting of distances to natural areas (OS) and trails (TRL) at half the point-value of distances to neighborhood or community parks. Adding the 4 layers together produces a range of values from 0 to 12. The analysis depicted in MAP 2-1 is for developed parks, existing trails, and currently accessible natural areas (note: "D" in "DNP" and "DCP" means "developed," "E" in "EOS" and "ETRL" means "existing").

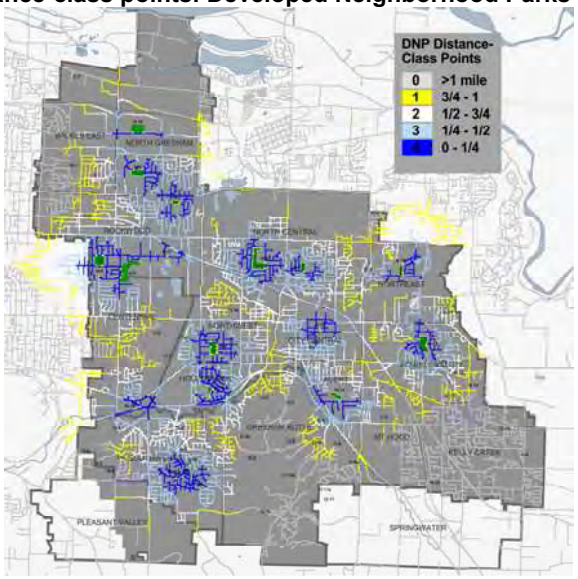
Adding the input layers together, possible values occur in 0.5 increments: values in the range 0.5-1.5, for example, are actually only 0.5, 1, and 1.5, with no in-between values. Zeros represent locations that don't fall within distance-classes of any of the parkland types.

The legend splits at a class that adds 1 point to each side of the median score for the Gresham + Pleasant Valley and Springwater areas (median=6). One can consider whites to mean roughly average, yellows-to-reds below average, and blues above average. These classes and colors are held constant to the extent possible for all model maps - as a base-case scenario.

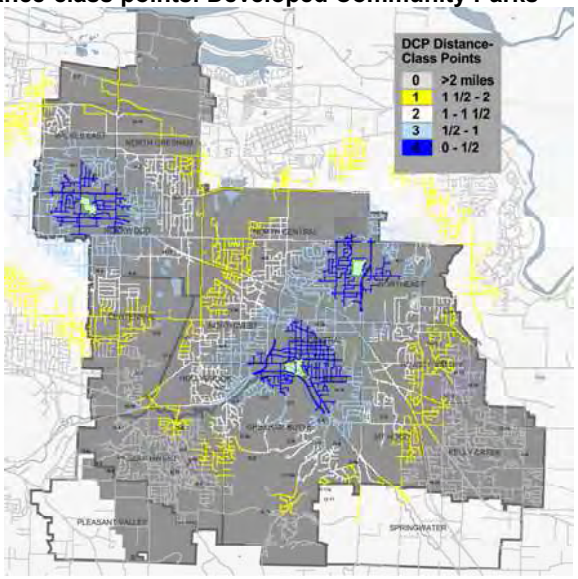
Based on Model 2, Gresham north of I-84, central Centennial, Kelly Creek, and southern study area, are the most parks-access deficient (yellow-to-red). Based on demographic analyses, such as how populated these areas are, only some of them actually need improved services. Note that the model is typology sensitive, which means a location, despite being close to 2 or more park features, might receive a low score - simply because the park features are of the same type. Locations near Vance and Rockwood Central NPs are an example.

MODEL 2 DEVELOPED/EXISTING INPUT LAYERS

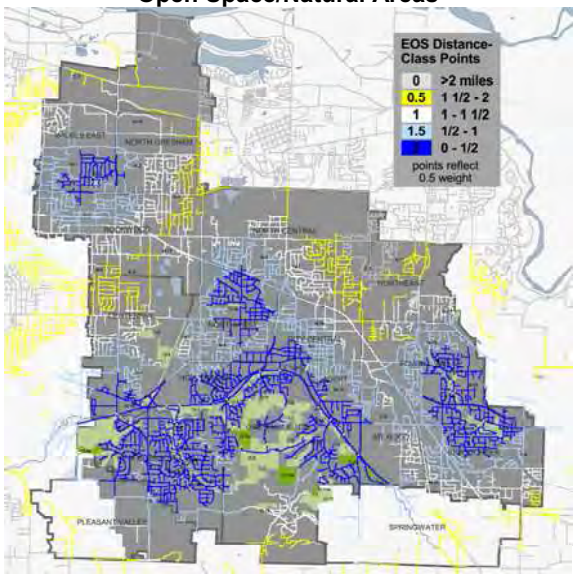
2-1A. Distance-class points: Developed Neighborhood Parks



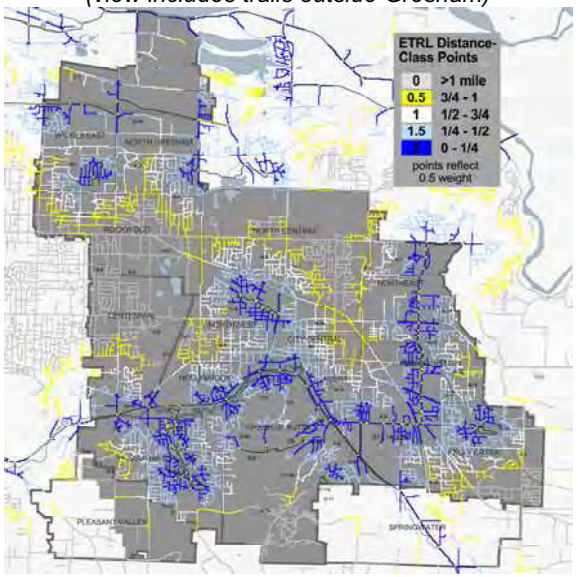
2-1B. Distance-class points: Developed Community Parks



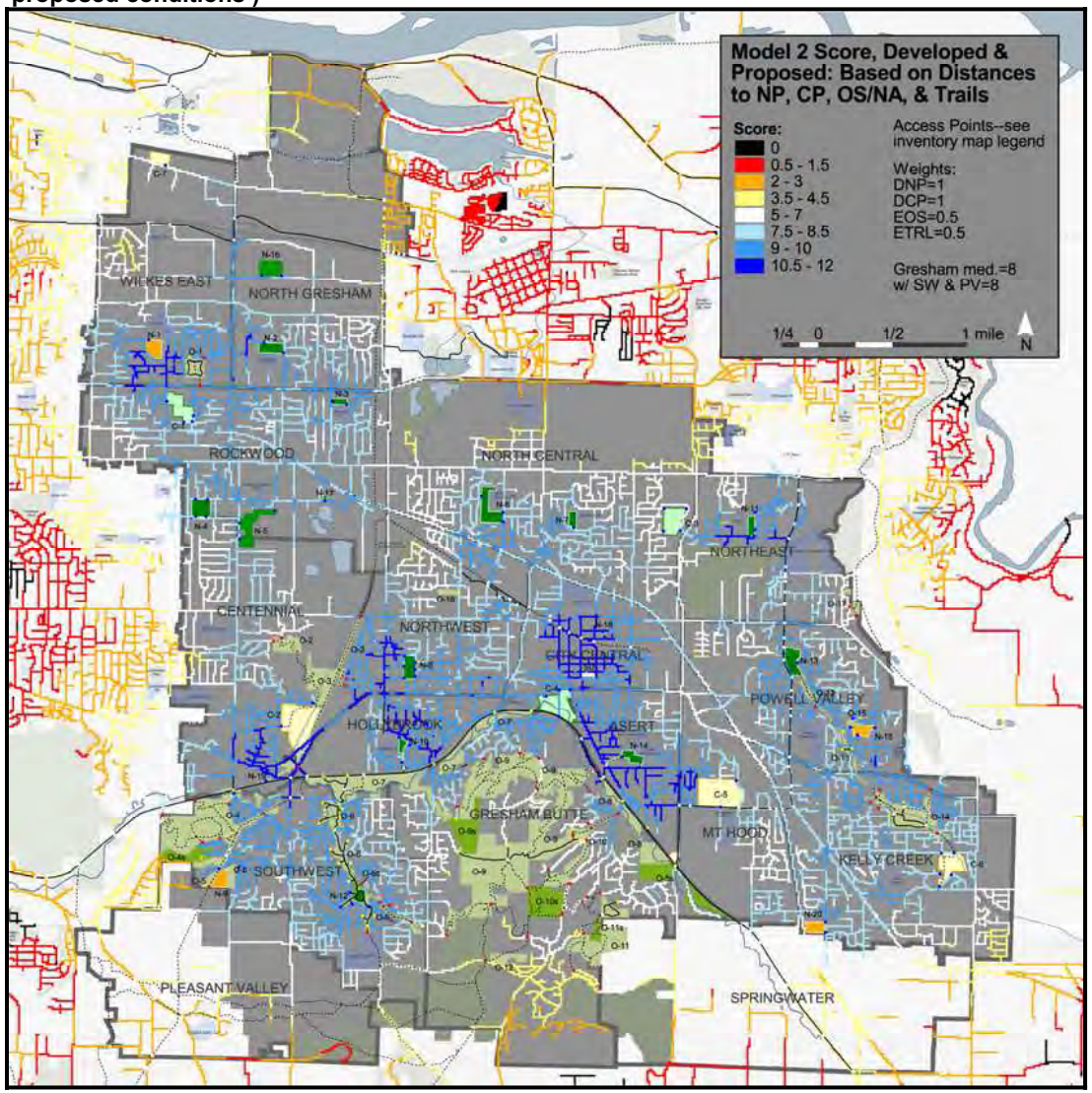
2-1C. Weighted distance-class points: currently accessible ('existing') Open Space/Natural Areas



2-1D. Weighted distance-class points: Existing Trails
(view includes trails outside Gresham)



MAP 2-2. MODEL 2 SCORE: DEVELOPED *AND* PROPOSED GRPD PARKLAND (a.k.a. 'proposed conditions')



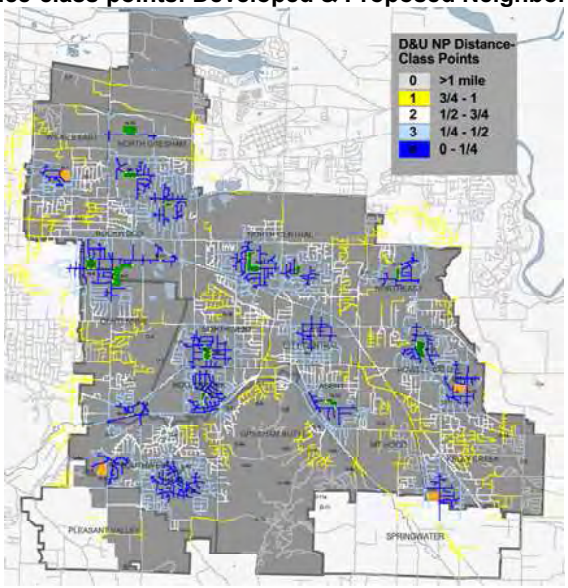
The dark grey underlying layer corresponds to the City of Gresham post-May 2006. However, all "Gresham" summaries in legends and elsewhere correspond to pre-May 2006 Gresham, which is simply all neighborhoods except Pleasant Valley and Springwater as depicted in the maps.

Model 2 has also been developed for proposed conditions. This version simply asks, 'What would parks access look like if, in addition to currently developed/existing facilities, all of the currently undeveloped or proposed facilities (which includes trails) were developed?' Like the developed/existing version, the proposed version considers network distances to the 4 GPRD parkland types and a weighting of OS and TRL layers at half the point-value of neighborhood or community parks. Even though the study area median has increased from 6 under existing conditions to 8 under proposed conditions, MAP 2-2 continues to use the same legend as MAP 2-1, facilitating comparison of 'before' and 'after' conditions. A score equivalent to the true median of 8 can be achieved through various distance-to-parkland combinations, but a rough interpretation might read as thus: if all proposed and undeveloped parkland features were developed, half the locations in the study area would fall within the equivalent of the closest distance-classes of 2 of the park-types, while half would fall beyond. Adequate access finds locations within, say, a 1/4-mile of an NP (4 points) and a 1/2-mile of a CP (also 4 points); or within a 1/4-mile of a trail, a 1/2-mile of OS (4 points), and a 1/2-mile of a CP (also 4 points).

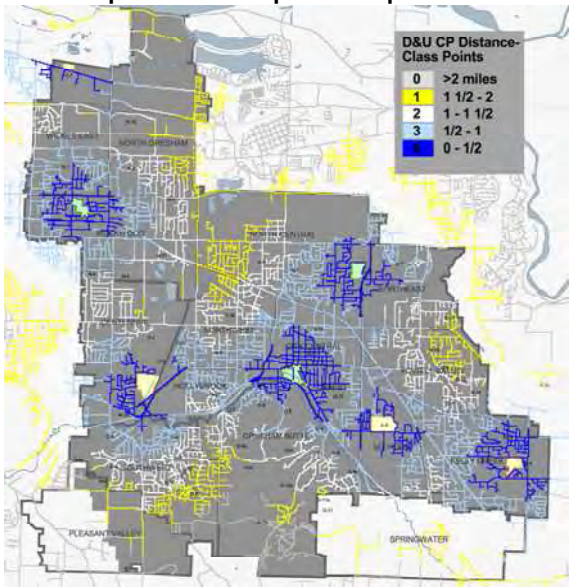
Most areas currently underserved (yellows-to-red in the developed-only Model 2, MAP 2-1), such as Centennial and Kelly Creek, become much better-served (blues in MAP 2-2) if currently undeveloped or proposed facilities are developed. In the strictly physical analysis, only a few areas would remain relatively underserved: South Gresham Butte, Pleasant Valley, and Springwater. In addition, top-level access - the 2 darkest blues - has become more widely distributed.

MODEL 2 DEVELOPED *AND* PROPOSED INPUT LAYERS

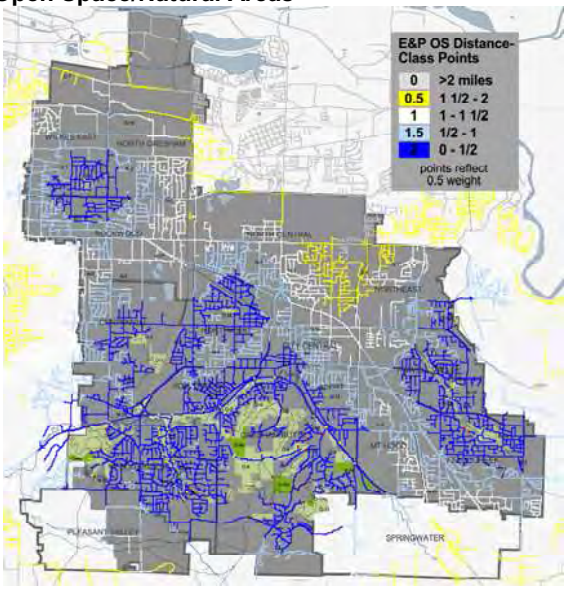
2-2A. Distance-class points: Developed & Proposed Neighborhood Parks



2-2B. Distance-class points: Developed & Proposed Community Parks

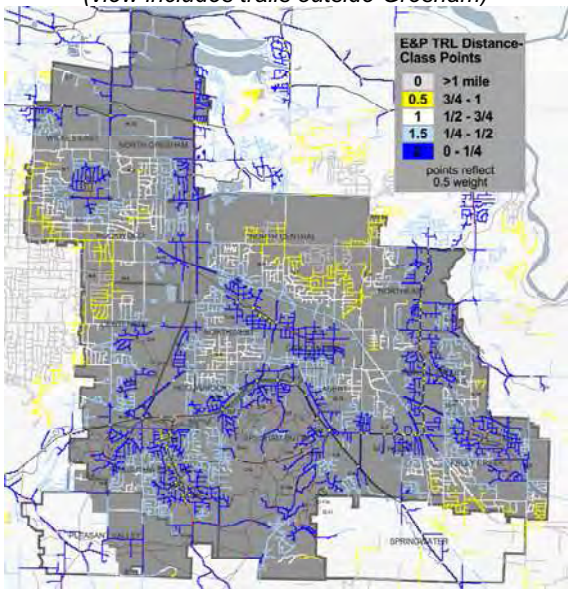


2-2C. Weighted distance-class points: currently accessible & potentially accessible Open Space/Natural Areas



2-2D. Weighted distance-class points: Existing & Proposed Trails

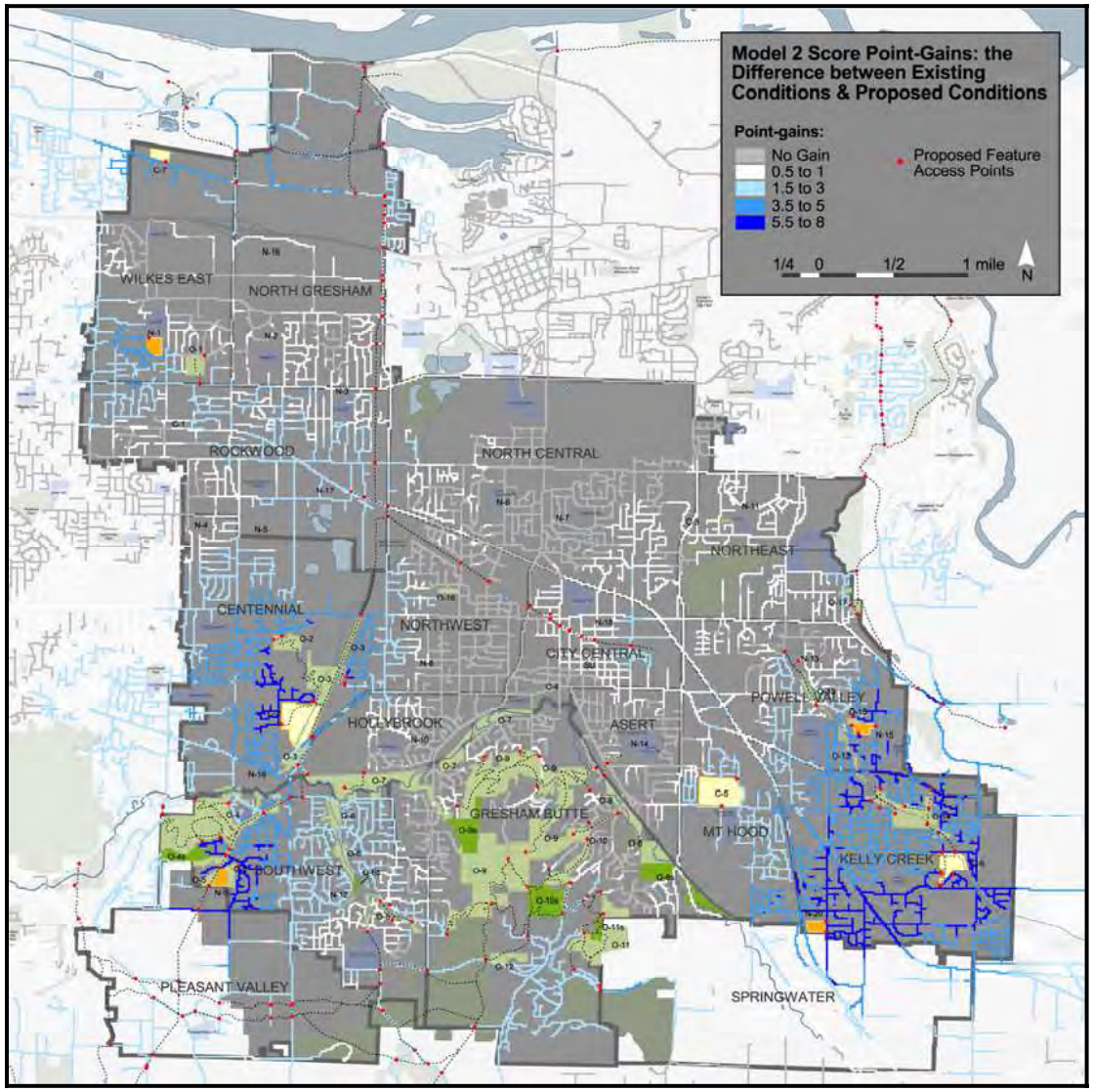
(view includes trails outside Gresham)



The Centennial-Southwest area, particularly west of the proposed Fairview-Gresham Trail, comes-up underserved in all the models. But the area offers a host of planning opportunities. The area depicted in the above image can become exceptionally served if proposed parkland facilities, including trails, were developed; existing and proposed trails could connect a variety of parkland services.

The Kelly Creek-south Powell Valley area also comes-up short in all the models. But like the Centennial-Southwest area, currently proposed parkland features offer many planning opportunities. The Kelly Creek neighborhood has been one of the fastest growing neighborhoods over recent years. New housing development has been pushing at its eastern side (see Map 1-9).

MAP 2-3. MODEL 2 SCORE POINT-GAINS: LOCATIONS WITH SOMETHING TO GAIN FROM DEVELOPING UNDEVELOPED/PROPOSED PARKLAND TYPES

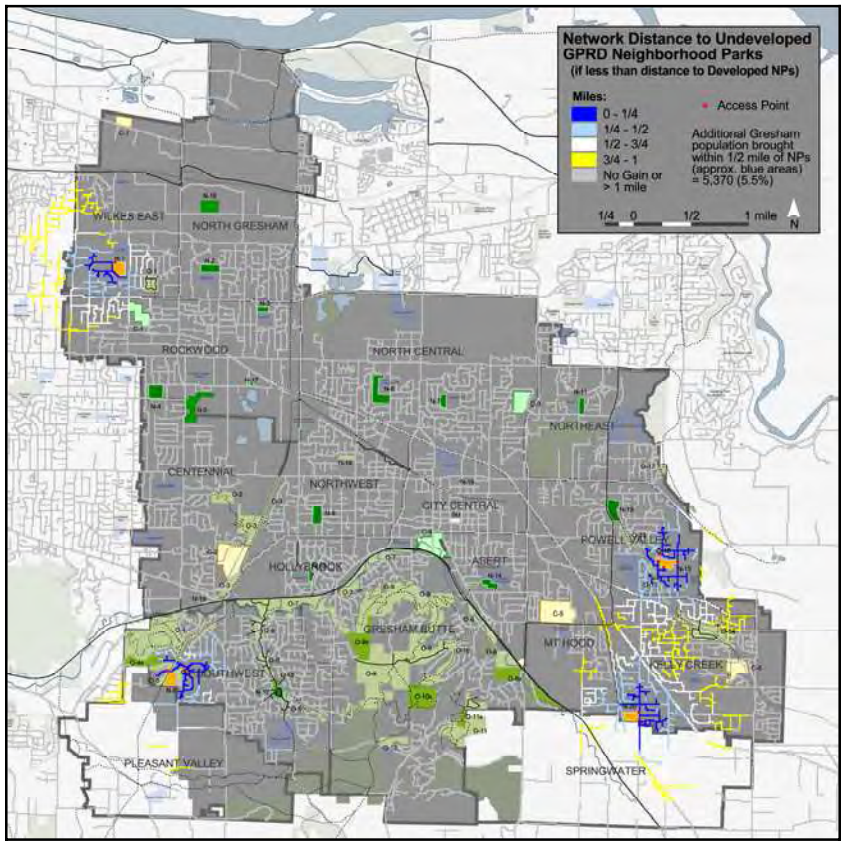


MAP 2-3, “Model 2 Score Point-Gains,” and MAPS 2-3A to D on the following pages, show locations with the most to gain from developing proposed facilities. MAP 2-3 shows gains in terms of points, while MAPS 2-3A to D show the network-distances by parkland type for locations where distances are shorter under proposed conditions. In shorthand, these can be called ‘proposed gains’.

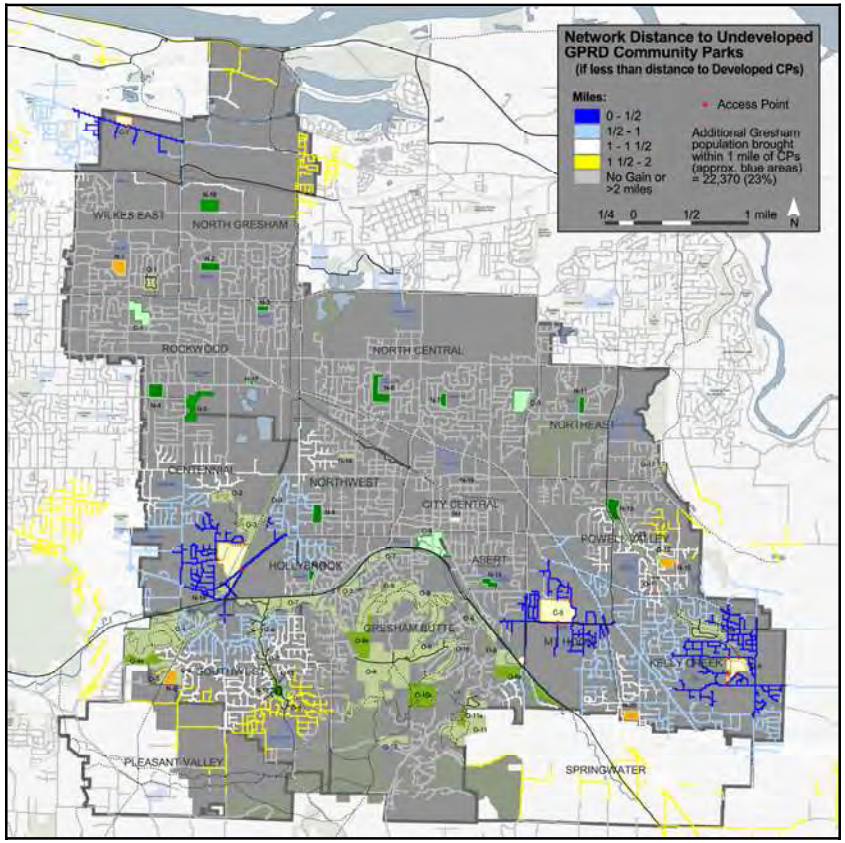
The layer at left is created by subtracting the Model 2 existing conditions layer (MAP 2-1) from the Model 2 proposed conditions layer (MAP 2-2). Grey network indicates locations that have nothing to gain in terms of becoming any closer to parkland features if proposed/undeveloped features are developed. White to blue indicate locations with progressively more to gain.

For example, some locations are near proposed trail access points alone (ex. locations in east Rockwood and City Central). These locations can gain at most 2 points if currently proposed trails in the vicinity were developed (a location more than 1-mile away from a trail under existing conditions becomes 1/4-mile away or less, which equals 0.5 X 4 points, or 2 points, under proposed conditions). On the other hand, some locations are near proposed NPs or CPs, OS and TRLs. If these locations are not very close to other park types under existing conditions they receive the largest point-gains. Locations in Kelly Creek, Centennial, and west Southwest are good examples.

MAP 2-4A. PROPOSED GAINS: NEIGHBORHOOD PARKS

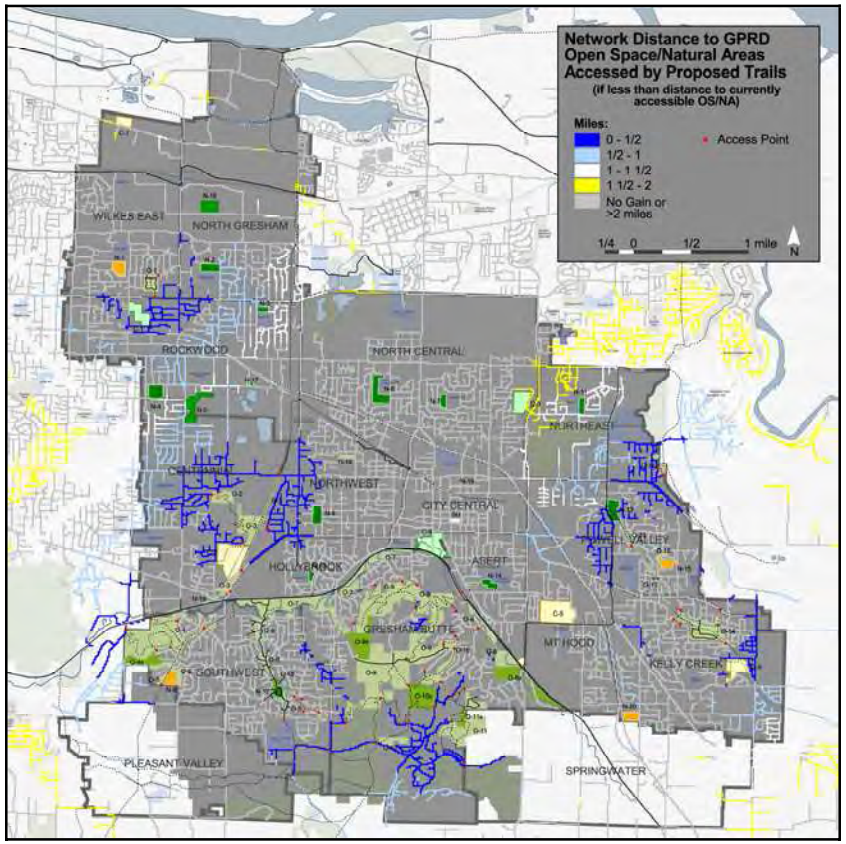


MAP 2-4B. PROPOSED GAINS: COMMUNITY PARKS

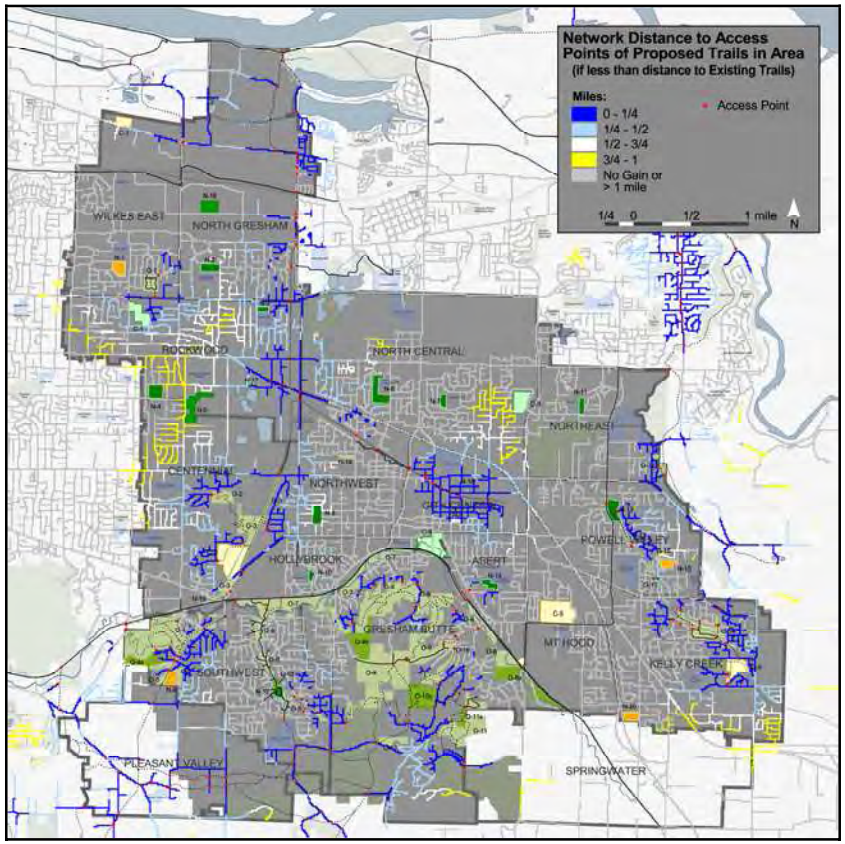


The proposed gains layers in MAPS 2-4A to D are created from network-distances to undeveloped/proposed parkland types, as well as network-distance layers for currently developed parkland types (the latter depicted in MAPS 2-1A to D). *Colored network shows where distances to the proposed facilities, if developed, would be less than distances to existing facilities.* Grey network shows where distances would not change or would remain above the maximum point-awarded thresholds (1 mile for NPs and TRLs, 2 miles for CPs and OS). The more white or yellow that can be seen, the more the proposed facility fills a void. White and yellow areas, however, still would remain underserved based on new performance measure service area sizes. Optimal distribution would create a dark blue center surrounded by a lighter blue ring, with no white or yellow. Cropped rings reveal where the proposed facility's distance-classes overlap the same distance-classes of existing facilities (i.e. given the set service area sizes, the parks might be a little too close together, all else being equal). Seemingly lop-sided network service area rings can indicate a lack of access points at one or more sides of a park; N-1, Columbia View NP in the upper left corner of MAP 2-4A, is a good example of this condition. Often, simply opening-up access to parkland at a side not currently accessible increases a given park's service area considerably, as residents will not need to walk around the park, which shortens their walking distances.

MAP 2-4C. PROPOSED GAINS: NATURAL AREAS/OPEN SPACE



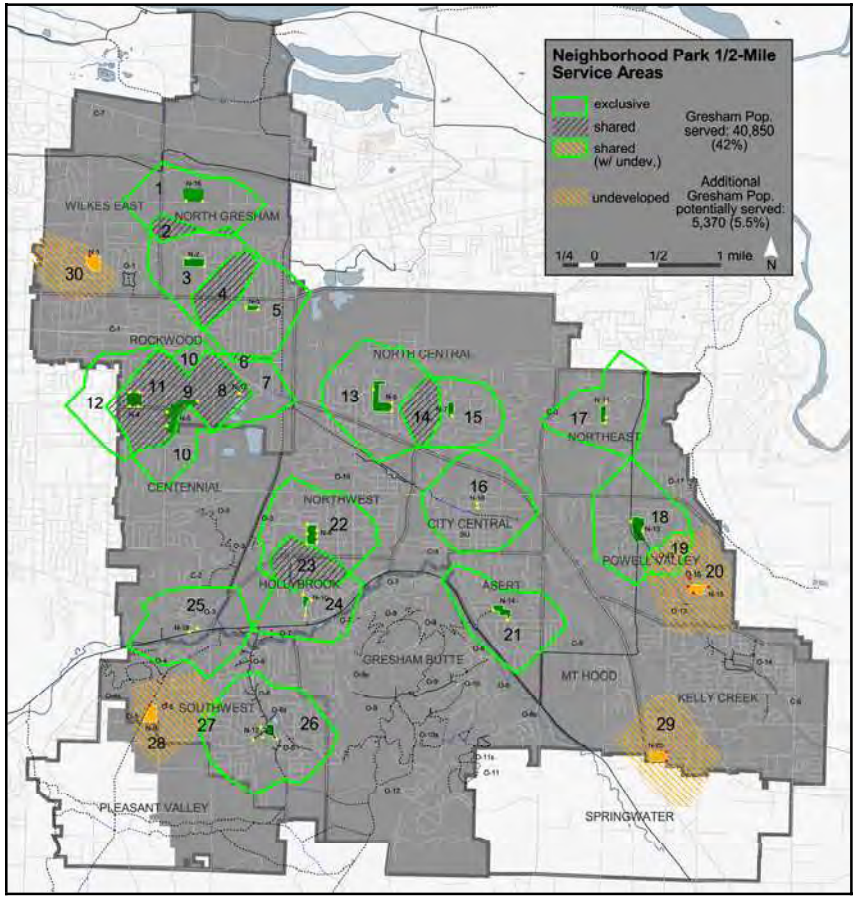
MAP 2-4D. PROPOSED GAINS: TRAILS



The new performance measures are based on total residents living within the preferred size service areas of each parkland type as a percentage of Gresham's population. GPRD's goal is to have 100% of Gresham's population residing within 1-mile of a community park, a 1/2-mile of a neighborhood park and trail, and tentatively, within 1-mile of a natural area. These measures would dictate that facilities best developed would be those that brought the most people into the preferred service areas. Developing the 4 neighborhood parks in MAP 2-4A, for instance, would add 5,370 residents, or 5.5% of Gresham's current population, to the population currently served by neighborhood parks. Developing the 4 proposed community parks depicted in MAP 2-4B would add 22,370 residents, or 23% of Gresham's current population, to the population currently served by community parks. Nearly all of these gains are achieved by developing the 3 southern community parks, as very few Gresham residents live near the proposed Zimmerman House Community Park (however, note: much of the land near Zimmerman, though currently zoned industrial, has residential Plan-classes).

The following maps better illustrate how the new performance measures are developed from the spatial data. The accompanying tables summarize the measures, along with other relevant variables.

MAP 2-5A. NEIGHBORHOOD PARK 1/2-MILE GENERALIZED NETWORK-DISTANCE SERVICE AREAS



MAPS 2-5A and B show generalized network-distance service area polygons for neighborhood and community parks. Legends distinguish portions of overlap as well as between developed and undeveloped parks. Black hash marks identify overlapping portions of service areas. Orange hash marks identify service areas for undeveloped parks, where green boundaries identify portions of overlap with developed parks. There is much that can be learned from analyzing the spatial relationships and data here. For brevity, one example is simply the undeveloped NPs in MAP 2-5A that, if developed, would 'bring in' the most residents.

TABLE 2-1. NEIGHBORHOOD PARK SERVICE AREA SUMMARY

			IN or OUT				*IN GRESHAM*				
Service Area Label	Service Area (acres)	Service Area Park/s	Pop. Jan. 06	HU	Pop. Density (per acre)	*Park* acres per 1,000*	Pop. Jan. 06	HU	SFR (%)	MFR/ CND (%)	MOB (%)
1	241	John Deere Field NP	2	1	0.0	1363	2	1	100.0	0.0	0.0
2	34	John Deere Field NP, Kirk NP	9	4	0.3	---	9	4	0.0	100.0	0.0
3	186	Kirk NP	2,566	1,095	13.8	2.3	2,566	1,095	27.7	68.9	3.5
4	100	Kirk NP, Davis NP	1,044	369	10.5	---	1,044	369	91.9	8.1	0.0
5	236	Davis NP	2,144	812	9.1	1.0	2,131	805	83.2	16.4	0.4
6	7	Davis NP, Yamhill NP	90	39	12.3	---	90	39	5.1	94.9	0.0
7	112	Yamhill NP	959	284	8.5	0.3	959	284	7.4	48.9	43.7
8	111	Yamhill NP, Vance NP	2,009	654	18.1		2,009	654	10.6	89.4	0.0
9	16	Yamhill NP, Vance NP, Rockwood Central NP	220	67	14.0	---	220	67	46.3	53.7	0.0
10	131	Vance NP	1,173	348	9.0	4.6	1,173	348	77.6	22.4	0.0
11	199	Vance NP, Rockwood Central NP	1,866	571	9.4	---	1,779	541	77.8	22.2	0.0
12	165	Rockwood Central NP	1,868	660	11.3	3.3	832	261	44.8	55.2	0.0
13	326	North Gresham NP	2,653	1,103	8.1	4.2	2,653	1,103	56.6	35.3	8.2
14	73	North Gresham NP, Aspen Highlands NP	1,024	478	13.9	---	1,024	478	49.4	50.6	0.0
15	157	Aspen Highlands NP	1,658	588	10.6	1.8	1,658	588	94.0	6.0	0.0
16	321	Cedar NP	2,777	1,290	8.7	0.1	2,777	1,290	14.3	85.7	0.0
17	248	Hall NP	1,945	1,012	7.8	2.0	1,903	998	24.2	75.8	0.0
18	283	Kane Road NP	3,883	1,508	13.7	2.3	3,883	1,508	39.6	55.2	5.2
19	54	Kane Road NP, East Gresham UNP	571	199	10.6	2.5	571	199	97.0	3.0	0.0
20	233	East Gresham UNP	1,488	516	6.4	3.1	1,488	516	99.2	0.8	0.0
21	278	Thom NP	2,720	1,143	9.8	2.0	2,720	1,143	48.0	40.9	11.1
22	274	Bella Vista NP	2,049	939	7.5	3.1	2,049	939	75.6	24.4	0.0
23	97	Bella Vista NP, Hollybrook NP	1,127	369	11.6	---	1,127	369	79.4	20.6	0.0
24	198	Hollybrook NP	1,800	579	9.1	1.1	1,800	579	73.1	26.9	0.0
25	310	Linneman Station NP	2,217	960	7.2	0.2	2,217	960	32.9	67.1	0.0
26	433	Butler Creek NP	3,521	1,244	8.1	1.1	3,521	1,244	100.0	0.0	0.0
27	7	Butler Creek NP, Jenne Butte UNP	37	14	5.1	1.1	37	14	100.0	0.0	0.0
28	214	Jenne Butte UNP	1,201	441	5.6	5.1	1,177	433	100.0	0.0	0.0
29	278	Southeast UNP	1,462	480	5.3	4.3	1,402	459	96.3	3.7	0.0
30	154	Columbia View UNP	1,333	508	8.7	5.6	1,281	486	78.8	21.2	0.0
GRAND TOTALS/SUMMARY			47,415	18,275	8.7	2.6	**46,102**	17,774	57.3	40.1	2.6
In areas currently served:			41,932	16,330	9.1	2.3	**40,754**	15,880	53.0	44.1	2.9
In non-overlapping areas potentially served by UNPs (labels 20, 28-30):			5,483	1,945	6.2	4.7	**5,348**	1,894	93.5	6.5	0.0

Gresham population currently served (%):	**41.6**	*(based on Jan. 2006 population=98,070, pre-May 2006 boundary, excludes PV & SW)*
***Additional* Gresham population potentially served (%):**	**5.5**	
Potential service growth (%):	**13.1**	

* Population in shared portions divided equally among service area source parks in denominator. "HU"=Housing units, "Pop."=population, "MFR/CND"=multi-family or condo, "MOB"=mobile or in some cases manufactured homes.

Comparing “Pop. Jan 06” under the “IN GRESHAM” heading of Table 2-1, for service area portions 30, 28, 20, and 29, which are currently NP-unserved areas, we find that developing East Gresham NP would add the most residents - 1,488. On the other hand, all figures generally are in the same ballpark, ranging from 1,177 additional residents served by NPs if Jenne Butte UNP were developed to 1,402 additional residents served by NPs if Southeast UNP were developed.

A closer look at the service areas reveals that a lack of access points on all sides of some of the undeveloped NPs produces smaller than optimal service areas. For example, if Southeast UNP (service area 29) were developed with access points on all sides, its 1/2-mile service area would extend farther into the Mt. Hood neighborhood, bringing more residents within its reach. Furthermore, as the Springwater community becomes developed and perhaps is annexed, residents in the Springwater portion of Southeast UNP’s service area would be included in the total. Currently, that total can be found in the “Pop. Jan 06.” column under the “IN or OUT” heading, meaning total population within the service area regardless of being in or out of Gresham; that total is 1,462 residents rather than the 1,402 currently in Gresham.

Population totals are estimates based on year-2000 average number of people per housing unit at the Census block-level. These averages have been applied to current taxlot-level units counts and controlled by neighborhood-level population estimates, which themselves are controlled by city-wide estimates (estimates for locations outside Gresham, however, are not controlled to totals within a larger area). In some cases other interpolation methods have been used to generate accurate averages; for example, where Census blocks were found to be spatially inaccurate.

Most table field-headings and variables are self-explanatory. The rows correspond to each service area or portion of a service area as labeled on the maps. Each delineates a unique area. “Exclusive” portions of service areas are served by only one park. “Shared” portions are served by two or more parks, which are listed under “Service area park/s.” Feature 14 in MAP 2-5A, for example, is served by both North Gresham NP and Aspen Highlands NP. All columns tabulate data for each of the labeled features - *except park-acres per 1,000* people. In this case the value in the row is not calculated for the unique service area portion as labeled, which wouldn’t make sense. Instead, it is calculated for *each park’s complete service area*.

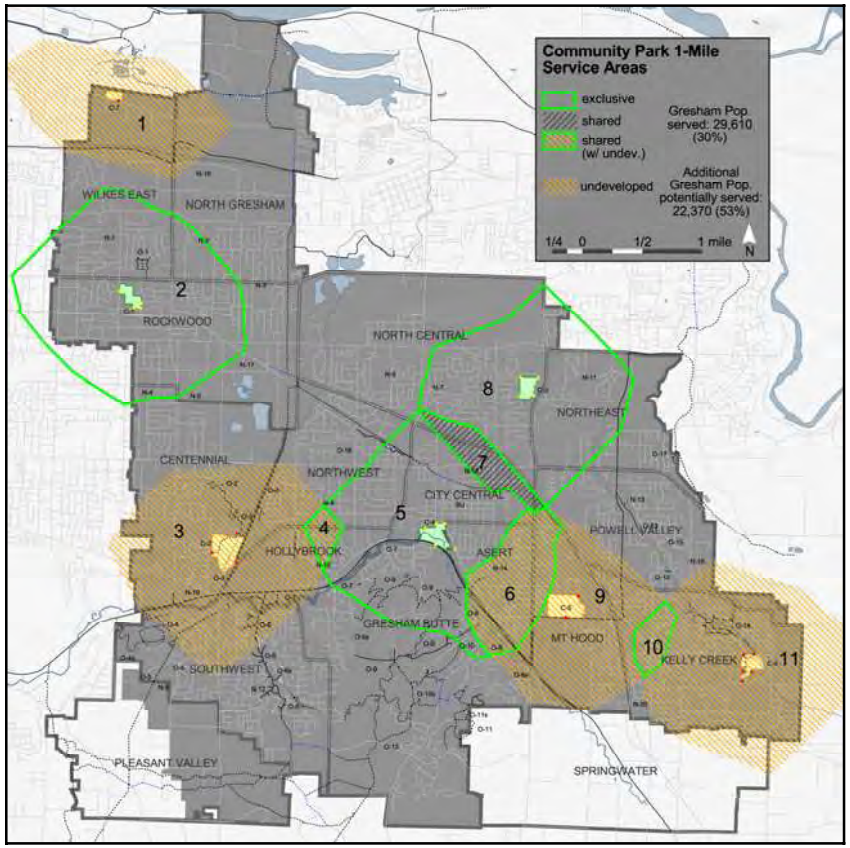
Taking features 13, 14, and 15 as an example, 13 is the area exclusively served by North Gresham NP, 15 is the area exclusively served by Aspen Highlands NP, and 14 is served by both. To calculate park-acres per 1,000, population in the shared area, 14, is simply split between the two parks. Thus, (neighborhood) park-acres per 1,000 for North Gresham NP 1/2-mile network-distance service area equals:

13.4 park-acres (from inventory table), *divided by*
2,653 (people in service area portion 13) *plus*
half of 1,024 (total population in service area portion 14 split between 2 parks)
X 1,000
=4.2 park-acres per 1,000 people

Park-acres per 1,000 for Aspen Highlands NP service area is:
4.0 park-acres (from inventory table), *divided by*
1,658 (people in service area portion 15) *plus*
half of 1,024 (total population in service area portion 14 split between 2 parks)
X 1,000
=1.8 park-acres per 1,000 people

Note that calculations include population within each park’s service area regardless of being in or out of Gresham. Also note that calculations become trickier when it comes to overlaps with *undeveloped* park service areas. This is handled by calculating ‘what-if’ conditions, where the value in a row with multiple park names, where one of the parks is undeveloped, such as “Butler Creek NP, Jenne Butte UNP” (row 27 in Table 2-1), can be read: “Park-acres per 1,000 for the Butler Creek NP 1/2-mile service area *if* Jenne Butte UNP were developed.” There are many more situations like this in the Community Parks summary table below.

MAP 2-5B. COMMUNITY PARK 1-MILE GENERALIZED NETWORK-DISTANCE SERVICE AREAS



The tables also summarize data for Gresham as a whole. These summaries can be used to gauge Gresham's performance or can serve as norms to which individual service areas can be compared. Along the lines of the former, Gresham's performance can be summarized as thus:

- 41.6% of Gresham's population is currently served by Neighborhood Parks
- developing currently proposed Neighborhood Parks, service can grow 13.1%, or by 5.5% (5,348 residents) of Gresham's current population total
- 40.4% of Gresham's population is currently served by Community Parks
- developing currently proposed Community Parks, service can grow 62.1%, or by 25.1% (9,620 residents) of Gresham's current population total

Along the lines of the latter: GPRD provides 2.3 neighborhood park-acres per 1,000 in areas currently served by Neighborhood Parks, and 1.1 community park-acres per 1,000 in areas currently served by Community Parks. In areas that could become served by proposed parks, these figures are 4.7 and 3.2 park-acres per 1,000, respectively. The Cedar NP service area falls way below the norm, at only 0.1 NP acre per 1,000, while the Pat Pfeifer CP service area falls the furthest below the norm among CP service areas, at only 0.6 CP acres per 1,000.

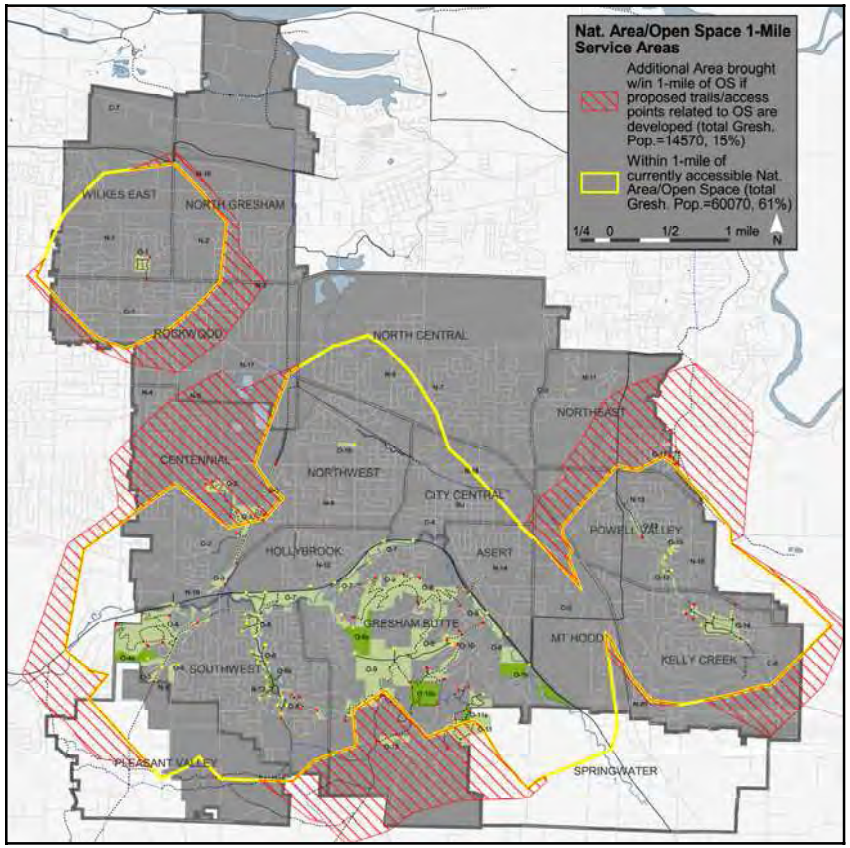
TABLE 2-2. COMMUNITY PARK SERVICE AREA SUMMARY

			IN or OUT				*IN GRESHAM*				
Service Area Label	Service Area (acres)	Service Area Park/s	Pop. Jan. 06	HU	Pop. Density (per acre)	*Park* acres per 1,000*	Pop. Jan. 06	HU	SFR (%)	MFR/ CND (%)	MOB (%)
1	897	Zimmerman House UCP	2,346	1,051	2.6	2.5	407	248	7.7	91.1	1.2
2	1514	Pat Pfeifer CP	21,179	8,027	14.0	0.6	17,070	6,348	35.7	61.3	3.0
3	1382	Southwest UCP	11,731	4,664	8.5	2.8	11,092	4,443	52.9	47.1	0.0
4	56	Main City CP, Southwest UCP	603	206	10.7	1.8	603	206	94.2	5.8	0.0
5	1193	Main City CP	7,307	3,101	6.1	1.8	7,307	3,101	49.4	50.6	0.0
6	395	Main City CP, Gradin Sports UCP	3,241	1,282	8.2	2.1	3,241	1,282	45.4	41.1	13.5
7	151	Main City CP, Red Sunset CP	1,540	517	10.2	---	1,540	517	6.4	93.6	0.0
8	1167	Red Sunset CP	10,009	4,311	8.6	1.3	9,855	4,250	42.8	54.3	3.0
9	787	Gradin Sports UCP	6,216	2,569	7.9	3.8	6,216	2,569	33.9	60.4	5.7
10	85	Gradin Sports UCP, Southeast UCP	878	358	10.4	4.0	878	358	57.8	42.2	0.0
11	1352	Southeast UCP	6,388	2,151	4.7	2.2/ 2.4	6,004	2,002	95.0	5.0	0.0
GRAND TOTALS/SUMMARY			71,438	28,237	8.0	1.9	**64,213**	25,324	46.5	51.0	2.5
		In areas currently served:	43,878	17,444	9.8	1.1	**39,616**	15,704	40.9	56.0	3.1
		In non-overlapping areas potentially served by UCPs (labels 1, 3, 9-11):	27,559	10,793	6.1	3.2	**24,597**	9,620	55.6	42.9	1.6
		Gresham population currently served (%):					**40.4**				
		***Additional* Gresham population potentially served (%):**					**25.1**				
		Potential service growth (%):					**62.1**				

(based on Jan. 2006 population=98,070, pre-May 2006 boundary, excludes PV & SW)

* Population in shared portions divided equally among service area source parks in denominator. Figures for portions shared with undeveloped parks can be read as in the following example: park acres per 1,000 for row 6, Main City CP/Gradin Sports UCP is the park acres per 1,000 within the Main City CP 1-mile service area if Gradin Sports UCP were developed. Park acres are based on Main City CP, population is taken from 4, 5, half of 7 and half of 6.

MAP 2-5C. NATURAL AREA/OPEN SPACE 1-MILE GENERALIZED NETWORK-DISTANCE SERVICE AREAS



Service area maps and summaries for Open Space/Natural Areas and Trails have been handled a little differently. MAPS 2-5C and D show the area served within yellow boundaries and the area potentially served within red hash marks. Summaries are broken down by neighborhood in Tables 2-3 and 2-4. All of the 'proposed' open space actually exists today, but its accessibility primarily depends on developing proposed trails and their access points. As such, much of the area potentially served by trails is also potentially served by open space. This is partially why Model 2 considers open space and trail in tandem.

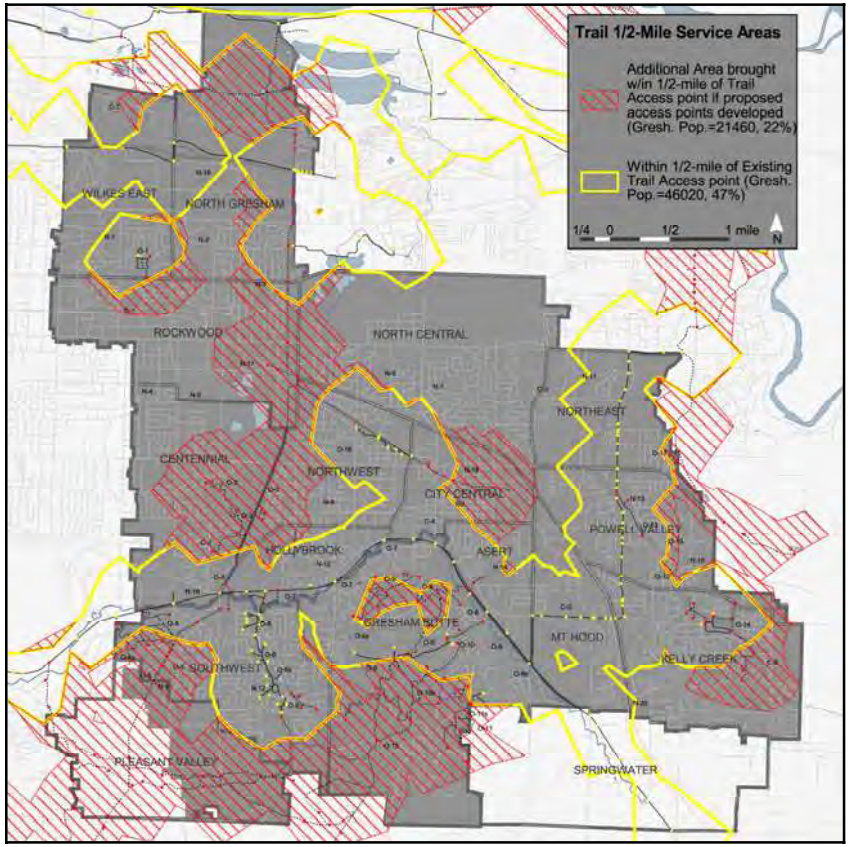
TABLE 2-3. NATURAL AREA/OPEN SPACE 1-MILE SERVICE AREA SUMMARY, BY NEIGHBORHOOD

NEIGHBORHOOD	*Existing Conditions*			*Proposed Conditions*			
	Population Jan. 2006	Residents served		Additional residents served		Residents served	
		Total	%	Total	%	Total	%
ASERT	3,168	3,147	99.3	0	0.0	3,147	99.3
CENTENNIAL	8,778	3,995	45.5	4,075	46.4	8,069	91.9
CITY CENTRAL	3,063	1,780	58.1	2	0.1	1,782	58.2
GRESHAM BUTTE	5,155	4,316	83.7	840	16.3	5,155	100.0
HOLLYBROOK	4,463	4,465	100.0	0	0.0	4,465	100.0
KELLY CREEK	8,307	6,679	80.4	533	6.4	7,212	86.8
MT HOOD	3,983	3,762	94.5	97	2.4	3,859	96.9
NORTH CENTRAL	10,412	3,189	30.6	0	0.0	3,189	30.6
NORTH GRESHAM	5,236	1,783	34.1	625	11.9	2,408	46.0
NORTHEAST	6,067	185	3.1	3,349	55.2	3,534	58.3
NORTHWEST	5,510	5,324	96.6	184	3.3	5,508	100.0
POWELL VALLEY	6,748	5,777	85.6	739	11.0	6,516	96.6
ROCKWOOD	15,152	4,678	30.9	4,124	27.2	8,803	58.1
SOUTHWEST	7,188	7,184	100.0	2	0.0	7,187	100.0
WILKES EAST	4,840	3,806	78.6	0	0.0	3,806	78.6
SPRINGWATER	637	98	15.4	0	0.0	98	15.4
PLEASANT VALLEY	483	209	43.3	43	8.9	252	52.2
GRESHAM Total	98,070	60,071	61.3	14,571	14.9	74,642	76.1
with SW and PV	99,190	60,379	60.9	14,614	14.7	74,992	75.6

Currently, 61.3% of Gresham's total population falls within the yellow boundaries intersected by the City of Gresham (pre-May 2006 boundary) in MAP 2-5C. This is the percentage considered "served" based on the new performance measure standard. If proposed trails associated with open space were developed, and thus make the open space accessible, an additional 14,750 residents, or 14.9% of Gresham's current population, would become served as well, bringing total service up to 76.1 percent.

Neighborhood populations least served by open space include Northeast, North Central, and Rockwood (3.1, 30.6, and 30.9 percent, respectively). Proposed trails associated with open space will make the biggest difference for residents in the Centennial, Northeast, and Rockwood neighborhoods, adding 3-4,000 additional residents per neighborhood. In the case of Rockwood, most of the difference is simply due to opening up the south side of Nadaka Open Space.

MAP 2-5D. TRAIL1/2-MILE GENERALIZED NETWORK-DISTANCE SERVICE AREAS



46.9% of Gresham's population is currently served by a trail - residents within the yellow boundaries intersected by the City in MAP 2-5D. Developing currently proposed trails would bring an additional 21,463 residents, or 21.9% of Gresham's current population, within a 1/2-mile of a trail access point, bringing total service up to 68.8%.

The largest absolute gain in residents served, by far, would happen in the Rockwood neighborhood (+6,013 residents) - by developing the Gresham-Fairview Trail and associated access points in or near the Rockwood neighborhood, as well as by opening up the south side of Nadaka Open Space.

TABLE 2-4. TRAIL 1/2-MILE SERVICE AREA SUMMARY, BY NEIGHBORHOOD

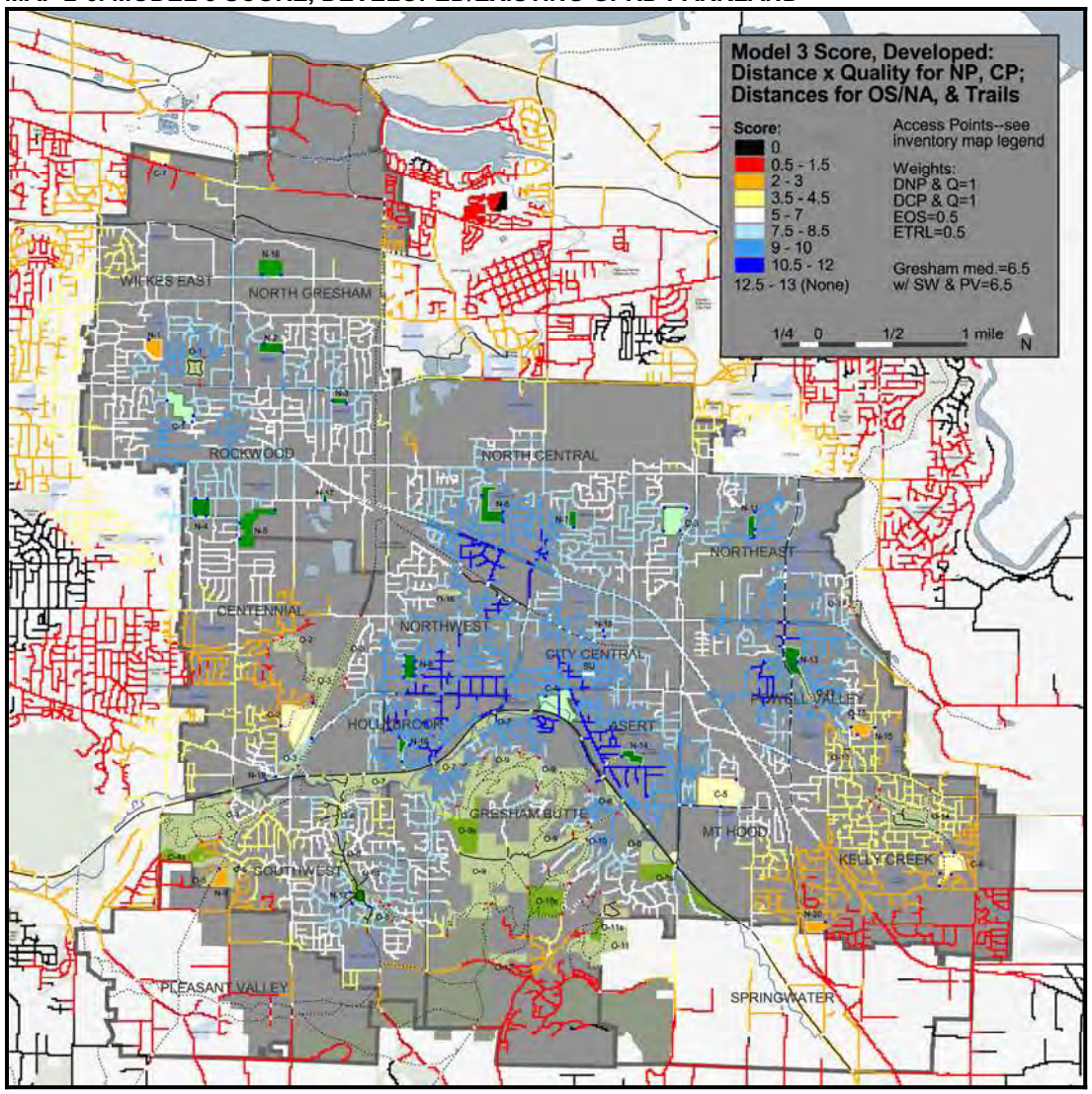
NEIGHBORHOOD	*Existing Conditions*			*Proposed Conditions*			
	Population Jan. 2006	Residents Served		Additional residents served		Residents served	
		Total	%	Total	%	Total	%
ASERT	3,168	2,445	77.2	188	5.9	2,632	83.1
CENTENNIAL	8,778	2,008	22.9	2,664	30.3	4,672	53.2
CITY CENTRAL	3,063	941	30.7	2,119	69.2	3,060	99.9
GRESHAM BUTTE	5,155	3,788	73.5	1,161	22.5	4,949	96.0
HOLLYBROOK	4,463	2,884	64.6	1,301	29.2	4,185	93.8
KELLY CREEK	8,307	5,046	60.7	943	11.4	5,989	72.1
MT HOOD	3,983	3,699	92.9	0	0.0	3,699	92.9
NORTH CENTRAL	10,412	1,090	10.5	1,724	16.6	2,815	27.0
NORTH GRESHAM	5,236	2,723	52.0	1,056	20.2	3,779	72.2
NORTHEAST	6,067	4,623	76.2	120	2.0	4,743	78.2
NORTHWEST	5,510	2,704	49.1	2,047	37.1	4,751	86.2
POWELL VALLEY	6,748	4,882	72.4	1,025	15.2	5,907	87.5
ROCKWOOD	15,152	309	2.0	6,013	39.7	6,322	41.7
SOUTHWEST	7,188	5,936	82.6	1,088	15.1	7,023	97.7
WILKES EAST	4,840	2,940	60.7	15	0.3	2,954	61.0
SPRINGWATER	637	157	24.6	5	0.7	161	25.3
PLEASANT VALLEY	483	0	0.0	451	93.3	451	93.3
GRESHAM Total	98,070	46,018	46.9	21,463	21.9	67,481	68.8
with SW and PV	99,190	46,174	46.6	21,919	22.1	68,093	68.6

The largest percentage gain can be found in the City Central neighborhood, by developing the Max Trail. Proposed trails blanket southern Gresham Butte and Pleasant Valley. Developing proposed trails in the Butler Ridge and Hogan Butte area of the Gresham Butte neighborhood would serve at least an additional 1,100 residents. However, population growth in this area, as well as in Pleasant Valley, is projected to be strong over the next 14 years; thus, additional residents served by proposed trails in both of these areas will likely be much greater. Note that, in addition to bringing more residents closer to trail access points, developing proposed trails adds linkages to the existing street and trail network. These linkages have been modeled in the analyses by adding not only trail access points but the trails themselves - to the underlying spatial data street network.

Even after currently proposed trails are developed, some neighborhood populations will remain unserved. These include residents in North Central (only 27% served), Rockwood (41.7% served), Centennial (53.2% served), and if considered along with neighborhoods, Springwater (25.3% served).

THE MODELS: MODEL 3

MAP 2-6. MODEL 3 SCORE, DEVELOPED/EXISTING GPRD PARKLAND

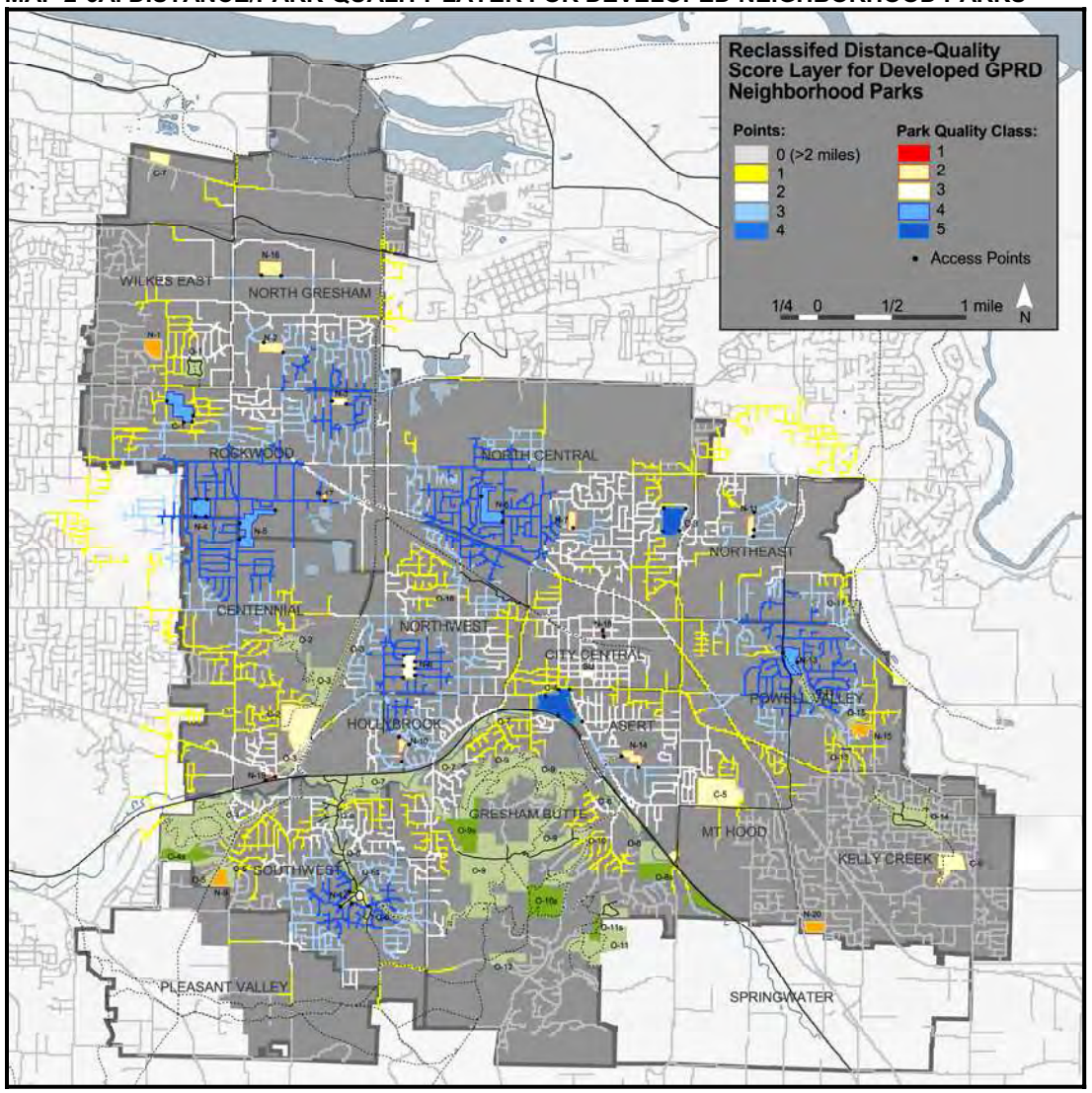


When interpreting the models, note that scores and colors outside of Gresham, Springwater, and Pleasant Valley exist only as a rough comparison to conditions within Gresham. Trail access points outside of Gresham are included in the view analysis.

Model 3 is the same as the Model 2 existing conditions version - except the NP and CP network-distance scores take into consideration *park quality*. Developed GPRD neighborhood and community parks have been assigned to a relative quality-class according to the number of facility *types* at each park (based on GPRD's facilities inventory) and the size of each park. This is implemented in *Model 3* as a park-quality multiplier layer that slightly attenuates the distance points for neighborhood and community park layers used in Model 2 (before being reclassified and added to the distance-points of the other parkland types). The result, unfortunately, is relatively subtle in the summary layer (MAP 2-6). As such the individual NP and CP layers may provide more useful information. In general, the park-quality conversion simply shifts the good colors (blues) towards relatively larger parks with more unique facility types, and vice versa. In the summary maps, this is best illustrated by looking at a specific location.

In MAP 2-6 locations around Linneman Station NP (N-19), for example, 'move' primarily from white to yellow. It is one of the smallest neighborhood parks, at 1/2 an acre, and falls within the bottom of 3 classes in terms of total unique facilities (having 5). Referring back to Model 2, MAP 2-1, which doesn't consider park-quality, locations around Linneman move from light blue to white. In terms of distances alone to the 4 parkland types, locations around Linneman score slightly above average. When considering facilities and size, they are bumped down to roughly average. The park quality layers basically keep all colors in Model 2 the same if park-quality is average, but shift them yellow or blue for below and above average quality, respectively.

MAP 2-6A. DISTANCE/PARK-QUALITY LAYER FOR DEVELOPED NEIGHBORHOOD PARKS



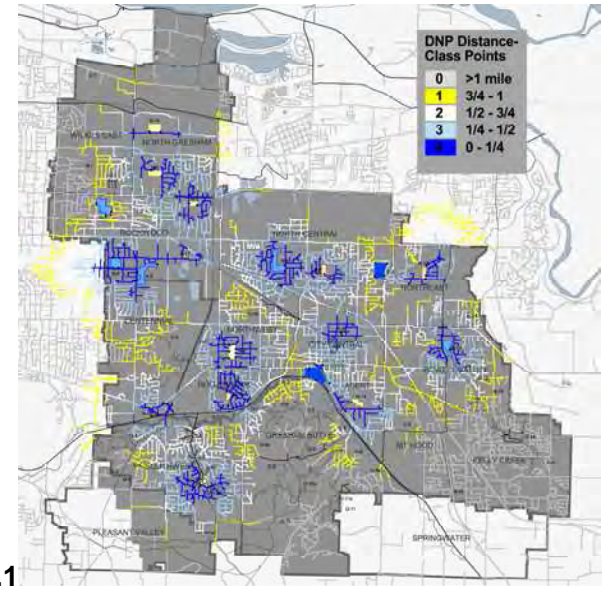
Note that this map includes in the view all GPRD parkland features, but only developed neighborhood parks and community parks have been 'quality-classed', and only developed neighborhood parks are the focus of network-analysis in this map.

MAP 2-6A is the new NP layer inserted into the full model. It more clearly shows the effect of considering park quality. In terms of scores, this can be compared to the distance-only map for developed neighborhood parks (MAP 2-1A or 2-6A.1 below). The legends show both the total points that locations receive at distance intervals from parks and the park quality-class to which parks belong.

The quality class is a fairly basic construction. All GPRD developed parks are evaluated along the 2 dimensions: number of unique facilities and total acres. Number of unique facilities in the inventory range from 3 (Cedar, John Deere Field, Thom and Hollybrook NPs) to 14 (Red Sunset CP). Next, parks are grouped together based on similar totals: parks with 3-5 unique facilities fall within the first, bottom class; 6-8 unique facilities in the middle class; and 11, 12, and 14 in the top class. Parks are thus awarded 1-3 points based on which class they fall within. Then, a similar procedure is followed using park size as the variable. Here parks sort-out according to these values: less than 1-acre parks fall within the bottom class; 2.6 to 9.5 acres the middle class; and 10.3 to 21.3 the top class. Again, the classes are treated as points. Finally, the 2 point-classes are added together, producing a range of real values from 2 to 6, and these are re-scaled 1 to 5 - the park quality classes depicted in MAP 2-6A's legend.

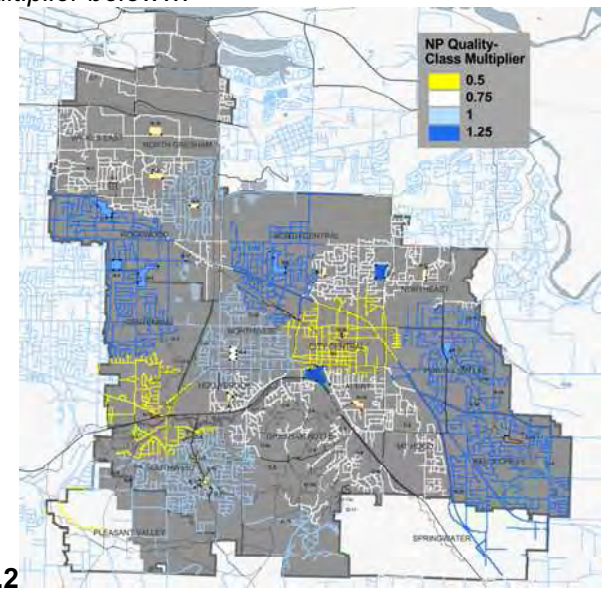
The next step is to convert the quality-class values into something that can be used at the raster-network level. But before going further, MAPS 2-6A.1 to 2-6A.4 show the input layers for the creation of MAP 2-6A, while MAPS 2-6B.1 to 2-6B.4 show the same for the Community Park layer in MAP 2-6B.

MAP 2-6A.1 TO 2-6A.4 DISTANCE/NEIGHBORHOOD PARK-QUALITY INPUT LAYERS

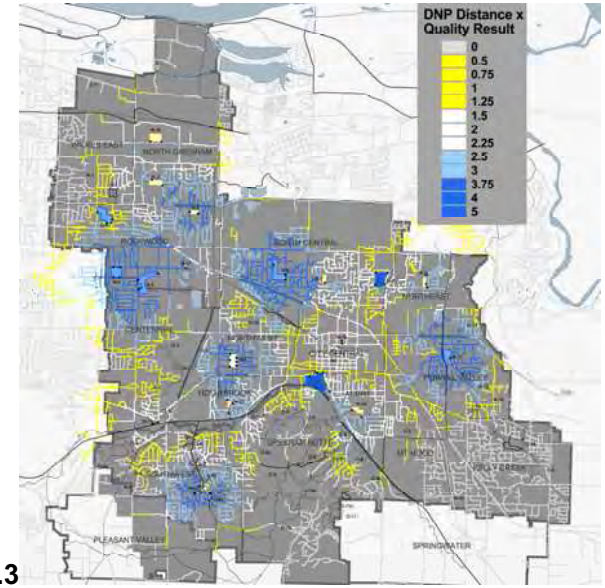


A.1

The core distance-points above are multiplied by the quality-class multiplier below…

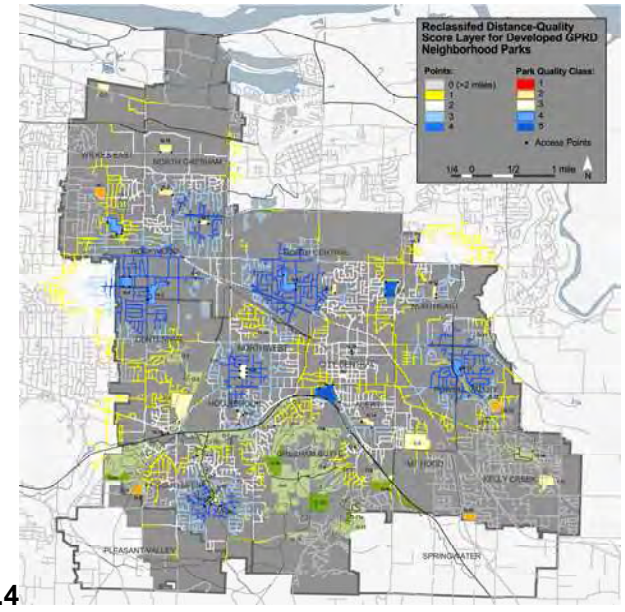


A.2



A.3

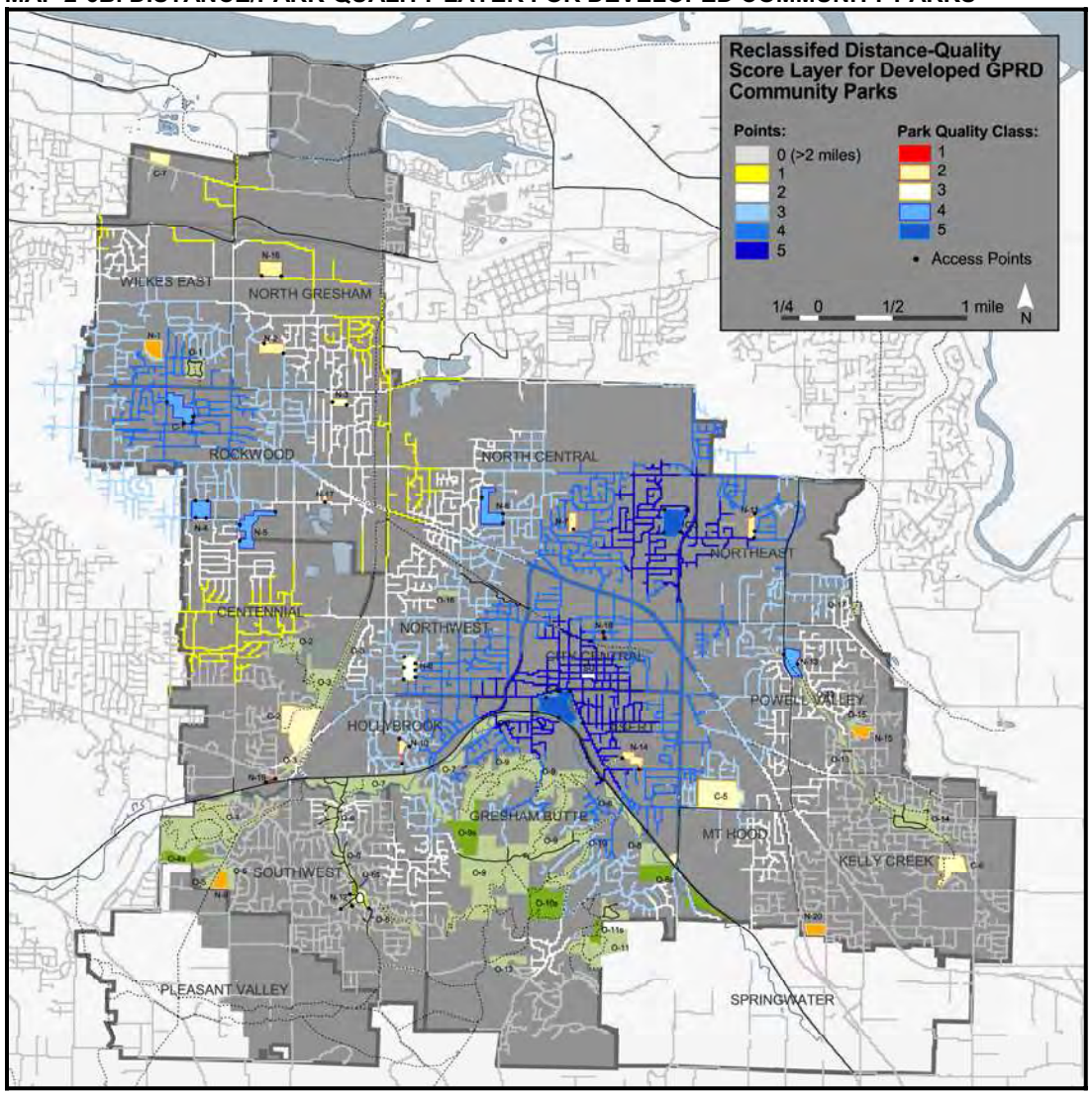
…which produces the values above, which in turn are reclassified into the point-scale below.



A.4

This layer can then be inserted into the basic model.

MAP 2-6B. DISTANCE/PARK-QUALITY LAYER FOR DEVELOPED COMMUNITY PARKS

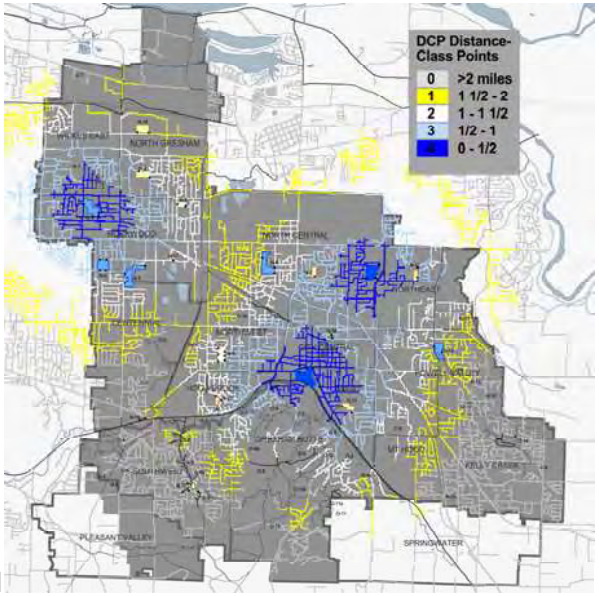


Note that this map includes in the view all GPRD parkland features, but only developed neighborhood parks and community parks have been 'quality-classed', and only developed community parks are the focus of network-analysis in this map.

MAP 2-6B is the new Community Park layer inserted into the basic model. Its construction is the same as that for Neighborhood Parks. The only difference stems from the fact that two of GPRD's community parks fall within the highest park quality-class and instead of reclassifying the underlying data into a 4-point range, the top 5-point class is preserved. This may cause some confusion if GPRD wishes to weight each parkland type layer differently - because the extra point means Community Parks as a whole have more weight than any other parkland type, i.e. the top is 5 points, not 4. Nevertheless, the top point is necessary to preserve meaningful distinction among parks based on quality.

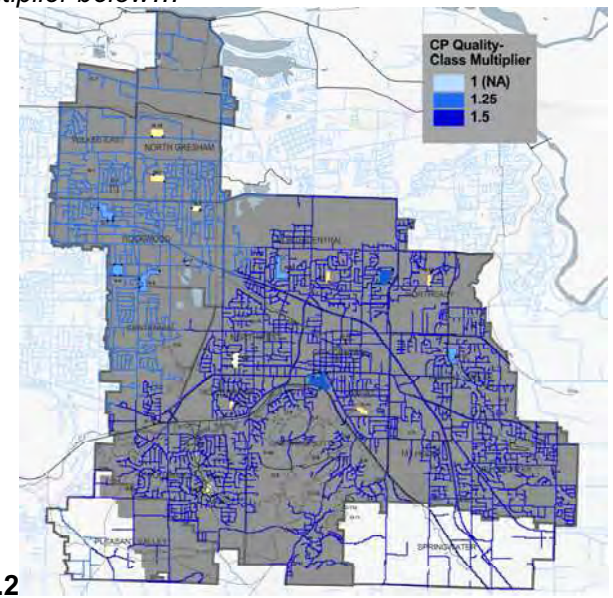
MAP 2-6B shows Main City CP and Red Sunset CP casting favorable colors over greater distances since these parks are the highest quality. Both Main City and Red Sunset fall within the top quality-class (5) based on facilities and size: Main City at 21 acres and 11 unique facilities, Red Sunset at 14 acres and 14 unique facilities. Pat Pfeifer CP falls within the 4th quality-class; top in terms of size (13 acres), but middle in terms of unique facilities (having 7). It has the same number of unique facilities as Vance NP, and 1 less than Butler Creek NP. Butler Creek NP is much smaller, however, and thus falls 1 quality-class lower. Pat Pfeifer CP's size is most similar to North Gresham NP, Red Sunset CP, and Vance NP. Red Sunset has twice the number of facilities and thus falls within the higher quality-class. Vance has the same number of unique facilities, while North Gresham has 1 less; both fall within the same quality class as Pat Pfeifer CP.

MAP 2-6B.1 TO 2-6B.4 DISTANCE/CP PARK-QUALITY INPUT LAYERS

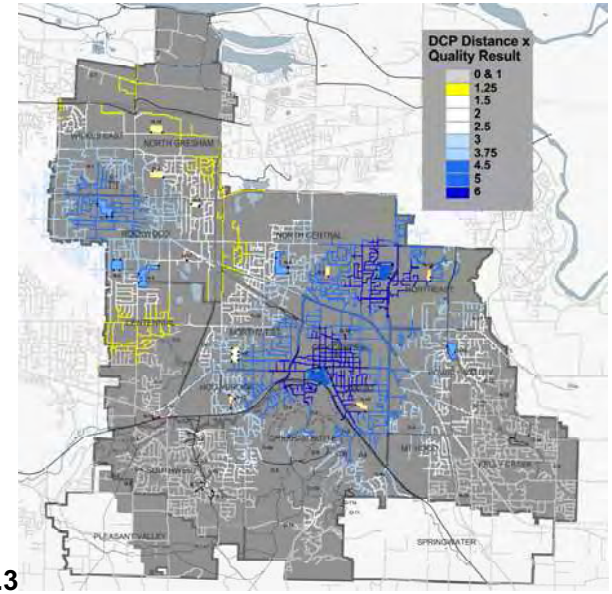


B.1

The core distance-points above are multiplied by the quality-class multiplier below…

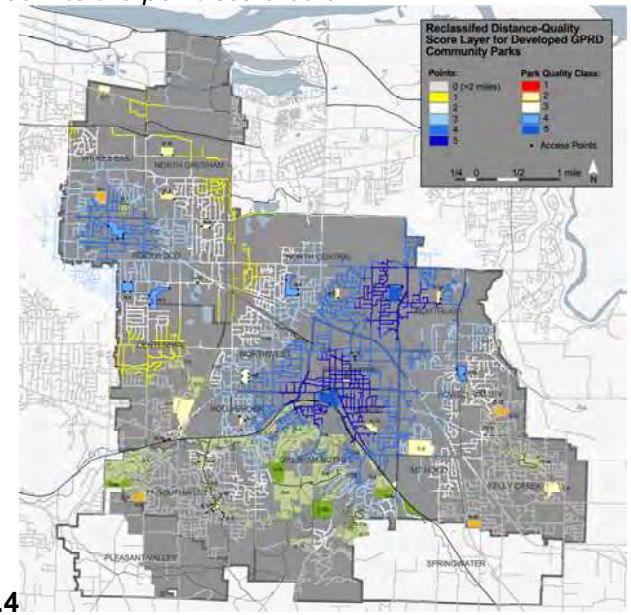


B.2



B.3

…which produces the values above, which in turn are reclassified into the point-scale below.



B.4

This layer can then be inserted into the basic model.

Quality-class 1: Cedar NP (0.3 acre, 3 unique facilities)

Quality-class 1: Linneman Station NP (0.5 acre, 5 unique facilities)

Quality-class 2: Hall NP (3.9 acres, 4 unique facilities)

Quality-class 3: Davis NP (2.6 acres, 6 unique facilities)

Quality-class 4: North Gresham NP (13.4 acres, 6 unique facilities)

Quality-class 5: Red Sunset CP (14.2 acres, 14 unique facilities)

Allocating the Park Quality-class Values to the Raster-network Level

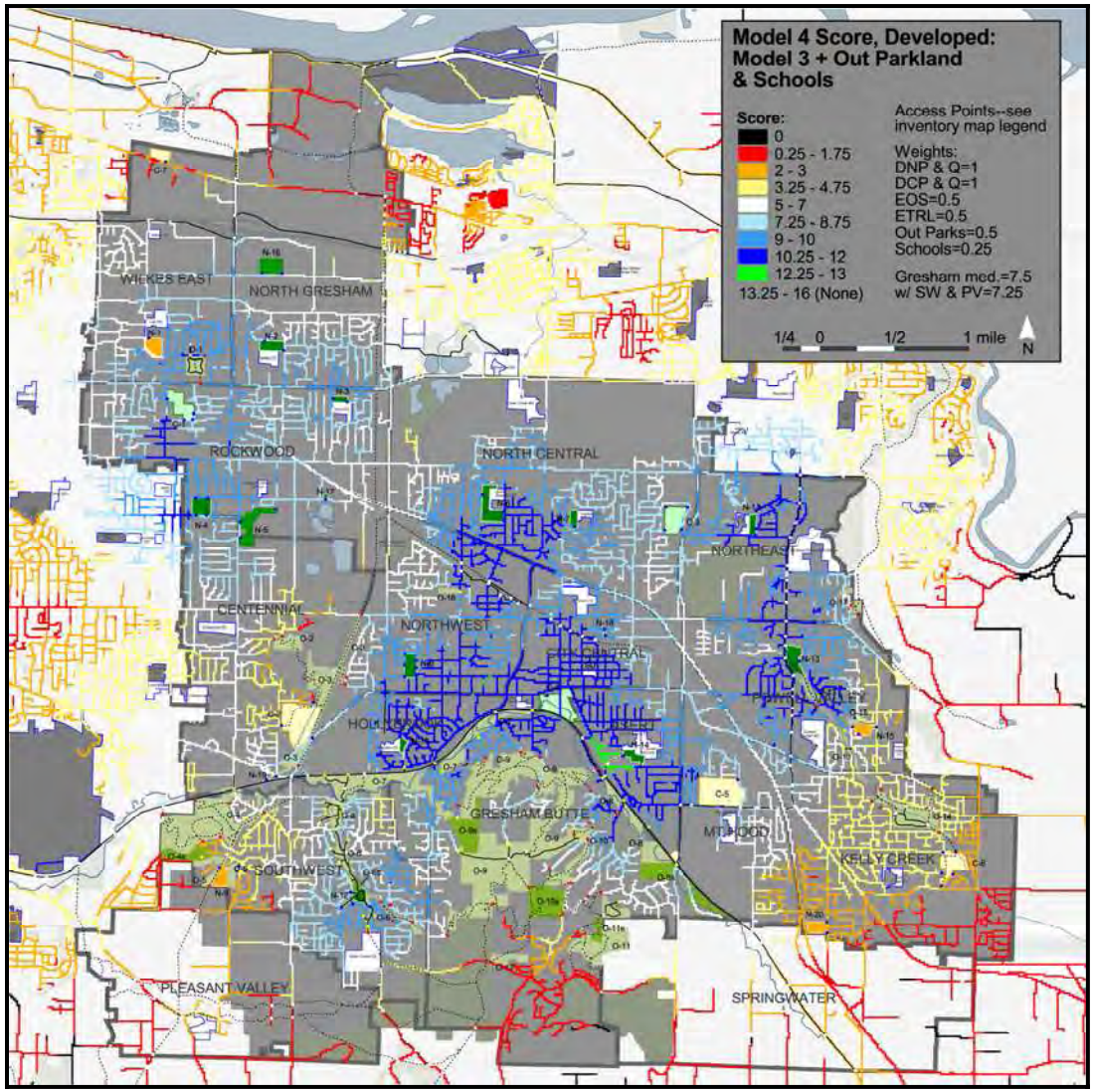
Allocation of the park-quality class scores to the raster-network level, i.e. the creation of the quality-class multiplier layers in MAP 2-6A.2 and B.2, resorted once again to the new performance measure service area standards. In short, the quality-class points of a given neighborhood park are assigned to locations within a 1/2-mile of the park; the quality-class points of a given community park are assigned to locations within 1-mile of the park. And locations not within either threshold receive the quality-class points of the closest park. There are 2 caveats, however.

First, in cases where a given location is within the preferred service area of more than 1 park the highest value has been awarded. Second, the quality-class points have been converted to decimal fractions and used as a multiplier against distance-points in order to preserve the meaning of access relative to distance. For example, in the models, locations more than 1-mile from a neighborhood park are said to have no access to that park (i.e. those locations receive no distance-points). Using the multiplier approach preserves that meaning, as multiplying anything by 0 produces 0. Using an additive 'interaction rule', say, treating the quality-class variable as another layer added to the basic model, would not preserve that fundamental aspect.

The multiplier values also preserve a certain scaling for the result layer. A location with an average quality-class score will not change the value of the distance-points (and thus the color) - because the quality-class multiplier value equals 1. In addition, the lowest quality-class multiplier value will halve the distance-points, while the highest quality-class multiplier value will add half. In other words, the range of values that result remain somewhat intuitive in the individual layer, where average quality doesn't change the distance layer points; lowest quality reduces distance points by at most 2 points; and highest quality increases distance points by at most 2 points. This all becomes somewhat redundant when the result is reclassified into single integers, which allows the new NP and CP layers to be easily inserted into the model along side TRL, OS and other layers, as well as subsequently being assigned different weights at GPRD's discretion.

THE MODELS: MODEL 4

MAP 2-7. MODEL 4 SCORE: MODEL 3 + SCORED NETWORK-DISTANCE LAYERS FOR SCHOOLS & OUT PARKLAND



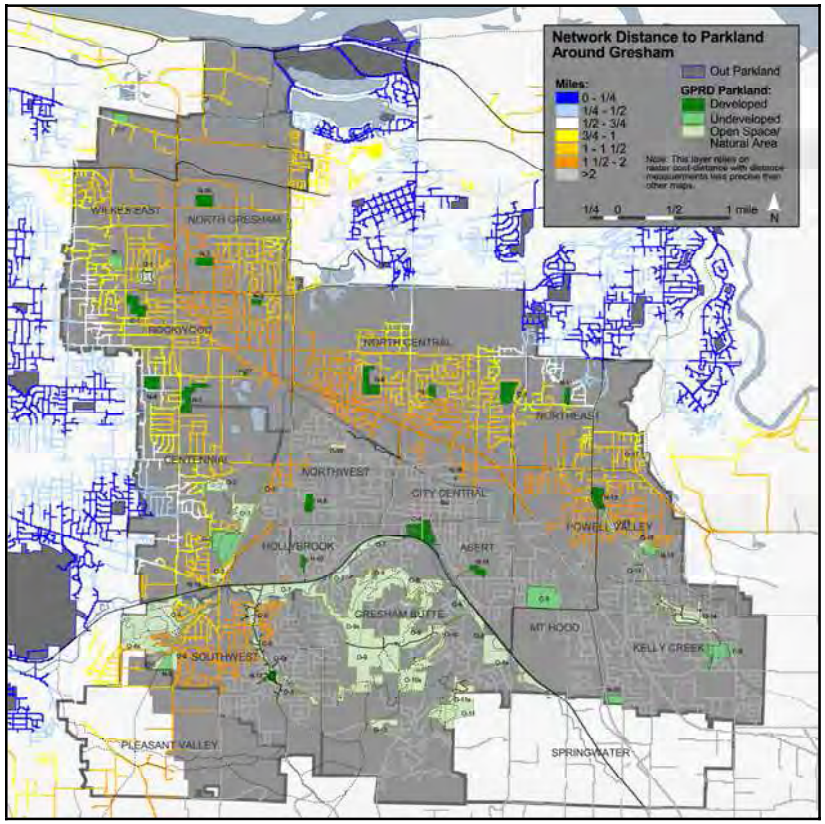
The addition of different park-type features to the model, such as out-parks and schools, raises the score of some under-served locations. However, judged relatively, there is nothing that prevents other already-served locations from simply becoming better-served and thus still beyond the lesser-served locations.

Model 4 adds to Model 3 scored network-distance layers for schools in and around Gresham and parks around Gresham. The latter are relevant to locations near the edge of the city, where parks not operated by GPRD may nevertheless provide services to Gresham residents. This model is not exactly considered any better or more comprehensive than Model 3, even though there is more to it. The individual schools and 'out-park' layers may be more useful than the aggregated model - simply used as maps on which to base subjective, ad-hoc decisions about park services from one location to the next.

Both out-park and school distance-classes are based on the same distance intervals as those for neighborhood parks, that is, 1/4-mile intervals up to 1-mile, beyond which locations receive no points. The basic 0 to 4 point values, however, have been weighted: out-park distance points are weighted at half the value, (i.e. multiplied by 0.5), and school distance points are weighted at a quarter of the value - multiplied by 0.25 (there are no hard and fast rules suggesting these weights). The 0 to 13 point range of Model 3 scores are thus boosted to 16 - a possible addition of 2 points from proximity to out-parks and 1 point from proximity to schools. MAP 2-7 shows that no location rises above 13 points, however.

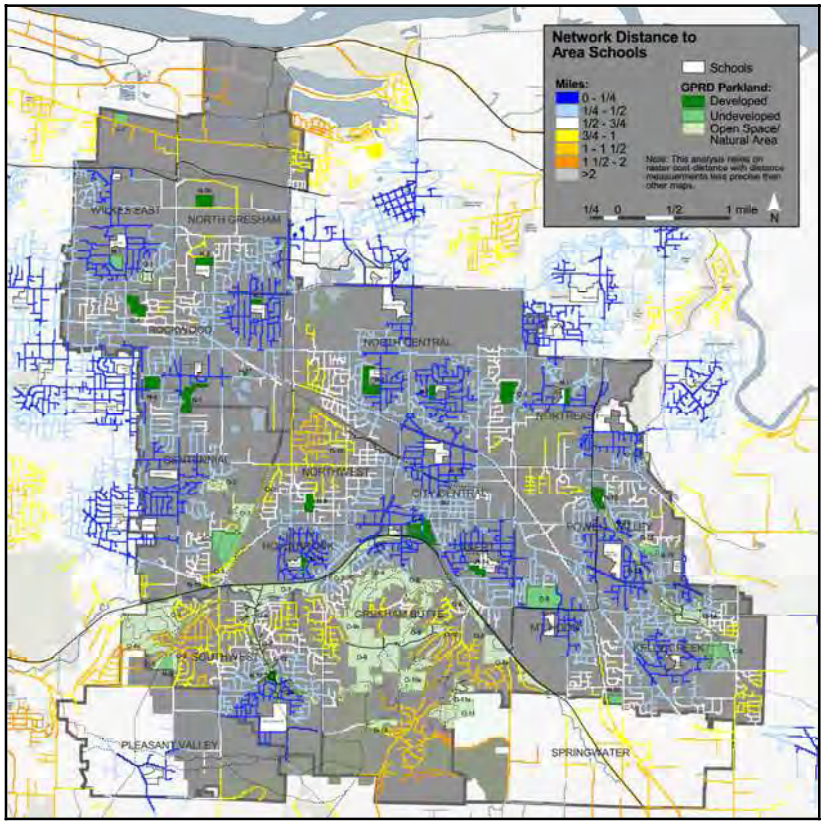
One GPRD under-served area stands out as potentially being served by schools and out-parks: central-east Centennial. This area is likely partially served by Lynchwood Park, Lynchwood ES, Centennial HS, and Centennial MS.

MAP 2-7A: NETWORK DISTANCE TO PARKLAND AROUND GRESHAM



MAPS 2-7A and B show network-distances to out-parks and schools in miles. MAP 2-7A shows that only a few locations within Gresham are likely to be served by out-parks. These areas are dark blue (0-1/4 mile), light blue (1/4-1/2 mile), and possibly white and yellow (1/2-1 mile) - if community park distance-classes were considered (most white and yellow areas, however, are currently served by GPRD parks). Knowing whether the out-parks are community parks or neighborhood parks would make a difference. However, since the GPRD park typologies are not necessarily based on objective qualitative or quantitative data, there is no surefire way to class the out-parks similarly. Ascertaining whether a park is NP or CP - and developed or undeveloped - cannot be easily accomplished based on available spatial data attributes.

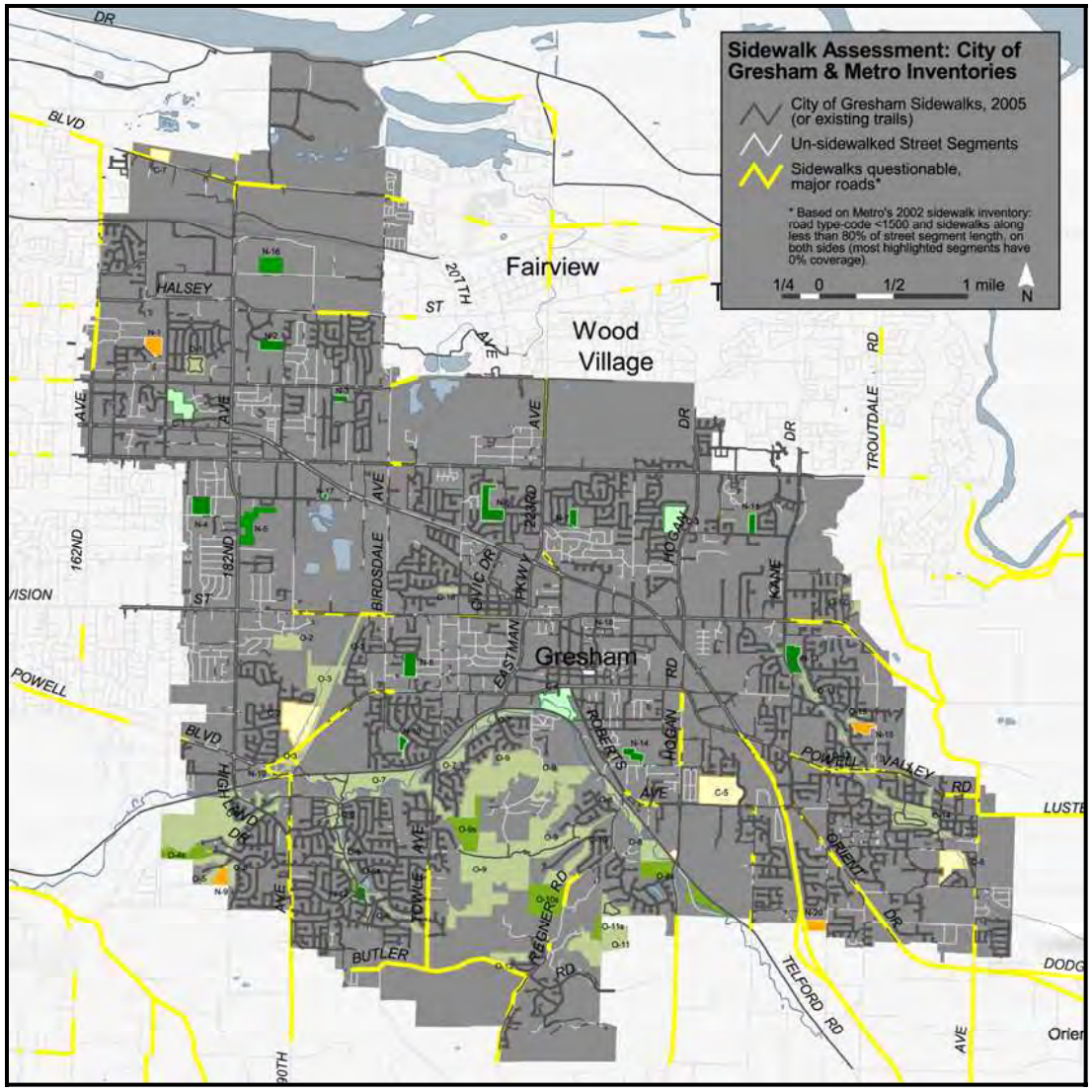
MAP 2-7B: NETWORK DISTANCE TO SCHOOLS IN & AROUND GRESHAM



Schools can provide park services, but the extent to which they do or can is also something that cannot be easily ascertained from available spatial data. Metro's 2003 parks inventory, which includes schools, simply lists all schools as not publicly accessible - which may be the case more often than not. The weighting of the schools layer in Model 4 reflects these uncertainties in how schools should be treated. MAP 2-7B, network-distances to schools, can be used to estimate where proximity to schools might be a factor in the allocation of effort towards improving park services from one location to the next. All else being equal, a location near a school or an out-park may not require additional services to the degree that another location away from both does.

OTHER CONSIDERATIONS: SIDEWALKS

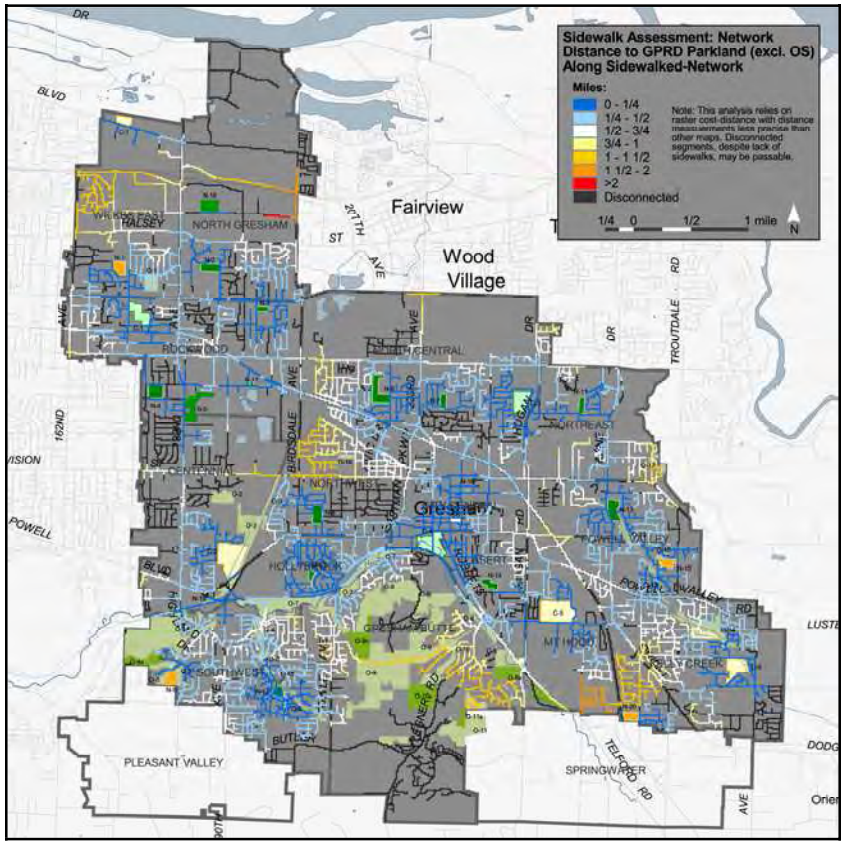
MAP 2-8. SIDEWALK ASSESSMENT: CITY OF GRESHAM & METRO INVENTORIES



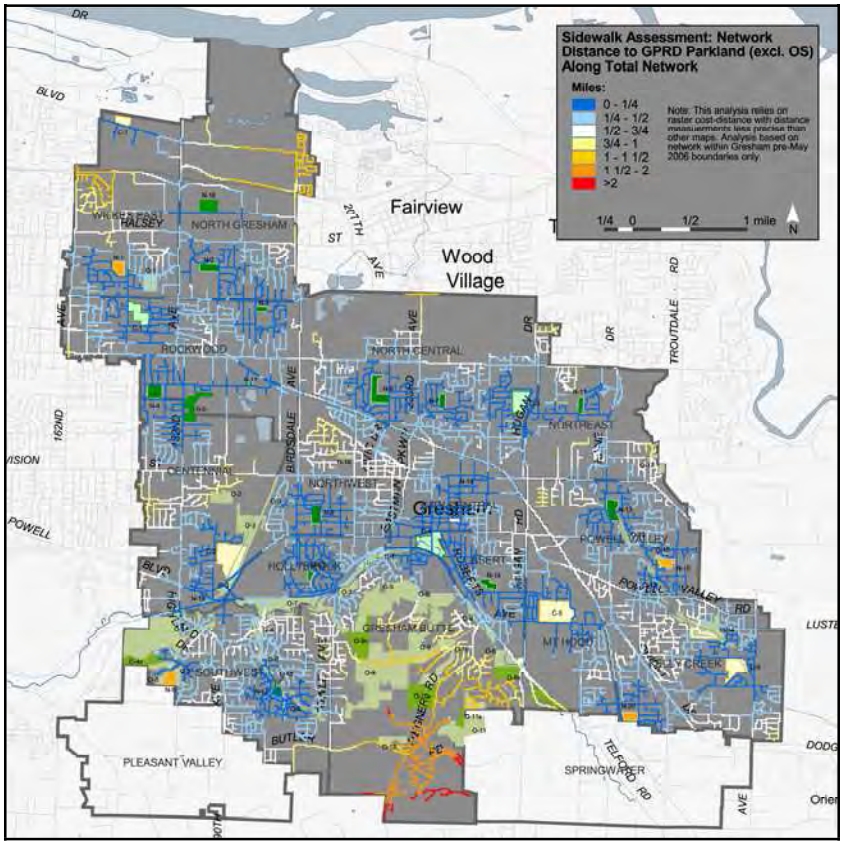
Distance measurements, the key component of parkland access in this study, are taken along the street-network centerline to parkland access points for most layers. Originally, the study was meant to be more focused on the pedestrian-scale than it turned out to be. Shifting the models to typologies made a pedestrian-scale assessment less than meaningful; for example, access to Community Parks and Open Space/Natural Areas occurs across large distances, up to 2-miles in this study. Yet 2-miles, and even much shorter distances, is beyond any meaningful distance one would choose to walk. In order to produce individual assessments of access to Community Parks and Open Space, and at the same time, be able to combine them with assessments of access to Neighborhood Parks and Trails in a single model, a geographic scale encompassing all feature types needed to be chosen. Unfortunately, this has meant paying less attention to a finer grain, the 'grain' for example where sidewalk continuity becomes important to assessing access.

Implicit in this study is the assumption that all existing streets and trails are equally accessible. This, however, may not be the case. MAP 2-8, Sidewalk Assessment, shows the distribution of sidewalks and highlights major roads where poor sidewalk coverage may preclude efficient pedestrian travel. Darkest grey segments depict sidewalks from the City inventory, yellow segments highlight major roads with poor sidewalk coverage, and lightest grey segments are roads with no sidewalks. Many roads in the latter case, though lacking sidewalks, are slow, quiet streets; thus, a lack of sidewalks may pose no great hindrance to pedestrian travel.

MAP 2-8A. NETWORK-DISTANCE TO GPRD NEIGHBORHOOD & COMMUNITY PARKS ALONG SIDEWALKED NETWORK



MAP 2-8B. NETWORK-DISTANCE TO GPRD NEIGHBORHOOD & COMMUNITY PARKS ALONG TOTAL NETWORK



Like the individual schools and out-park layers, the sidewalk layers may be more useful simply as maps on which to base subjective, ad-hoc decisions about the quality of access to park services from one location to the next. MAPS 2-8A and B offer comparison views of network distances to GPRD Neighborhood and Community parks (developed or undeveloped) along the sidewalked street network (MAP 2-8A) versus the total network (MAP 2-8B). The left view shows areas where streets become disconnected from the network due to lack of sidewalk continuity (black segments). In addition, it also shows how much those discontinuities affect walking-distances on other, dependent street segments. For example, in the right view, much of the area around undeveloped Southeast NP is blue (short distances), whereas, in the left view, lack of sidewalk continuity cuts the proposed park off from the rest of the network and, thus, walking-distances become longer. North Northwest Neighborhood in the right view shows distances in the range of a 1/2-mile to 1-mile (white and light yellow); in the left view, considering sidewalk continuity, those distances increase to the 3/4 to 1 1/2-mile range. Looking at the distribution of un-sidewalked network (black) in the left view, central Centennial and Northwest are most likely to have locations where access is hindered due to poor sidewalk coverage, followed by pockets in the Rockwood and North Central neighborhoods.

CONCLUSION

The demographic profile, population forecasts, and parks access analyses for the City of Gresham and its Springwater and Pleasant Valley planning areas will inform GPRD's *Parks, Natural Areas, and Trails Comprehensive Planning* effort.

The *demographic profile* discussed current conditions and likely furture trends for population, housing, and households. It focused on age and race and included demographic map layers that can be overlayed on parks access layers in GIS. The *profile* describes a modestly-sized city of almost 100,000 residents - a population getting slightly older yet remaining younger than the regional population. It is has become more diverse, particularly with a growing Hispanic and Latino population, concentrated in the Rockwood neighborhood. Housing has become more expensive over the past decade, yet it still remains more affordable than other locations in the region. That relative affordability has accomodated many young families. On the other hand, much of the new housing is relatively expensive and likely is not so affordable to young families. Meanwhile, median household income and income per-capita have declined in real terms over recent years.

Year-2020 population forecasts by age and sex for the City of Gresham, and for the general population by Gresham's neighborhoods, Pleasant Valley, and Springwater, project growth over the next 14 years. The City will grow by approximately 14,000 residents. Pleasant Valley will reach approximately 3,800 residents, and Springwater will reach approximately 1,900 residents. Children as a share of Gresham's population will remain about the same, at 30 percent, while the share of seniors will grow by 3 percentage-points, to 12.5 percent. Working-age adults will decline 3 percentage-points. Gresham Butte, Kelly Creek, and Northwest neighborhoods are expected to contribute over half the total of Gresham's population growth through 2020.

Parks access analyses focused on GPRD parkland typologies: Neighborhood and Community parks, Natural Areas/Open Space, and Trails. Model 2 came in two versions - existing and proposed conditions. The new performance measures, since they rely on distance and the 4 park-types alone, are most related to Model 2; thus their summaries were presented with Model 2. Models 3 and 4 focused on existing conditions, yet added analyses for parkland quality, schools, and out-parks.

Model 2 is a basic or base-case model that serves as a diagnostic tool for the distribution of parks access in terms of distance by parkland type alone. It is more instructive than conclusory. Model 3 adds parkland quality and is considered, among all the models, the best. It adds realism by including facilities and park size - but does not 'muddy the waters' with the addition of layers that are difficult to accurately weight and rate (i.e. the schools and out-parks layers in Model 4). Model 4 adds distance to schools and out-parks in an effort to attain comprehensiveness, but similar to Model 2, it is more illustrative than conclusory. The individual schools and out-parks distance layers can be used as individual diagnostic-type layers, i.e. the maps create a general impression of locations that might be served by schools and out-parks. The sidewalk assessment maps are similar in nature.

Model 3 and its NP and CP 'distance/quality' layers are recommended for any future overlays and queries against demographic layers presented in Section I. In addition, summary statistics for all models, along with other measures, are provided by neighborhood in the appendix. These summaries can be compared to demographic data, including population forecasts, by neighborhoods. These tools, along with insights provided in the text, will help the City of Gresham move forward confidently in its *Comprehensive Planning* effort.

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APPENDIX
for
PRC GRESHAM PARKS
REPORT

Contents:

	Gresham			Percent	Multnomah County			Percent	3-co Metro			Percent
	1990	2000	Change	change	1990	2000	Change	change	1990	2000	Change	change
Population:												
Total	68,223	90,029	*21,806*	*32.0*	583,887	660,486	*76,599*	*13.1*	1,174,291	1,444,219	*269,928*	*23.0*
In group quarters:	753	1,121	*368*	*48.9*	13,511	16,688	*3,177*	*23.5*	19,720	23,667	*3,947*	*20.0*
institutionalized	648	707	*59*	*9.1*	6,633	6,458	*-175*	*-2.6*	10,278	9,904	*-374*	*-3.6*
noninstitutionalized	105	414	*309*	*294.3*	6,878	10,230	*3,352*	*48.7*	9,442	13,763	*4,321*	*45.8*
Race or Ethnicity:												
White, Non-Hispanic	62,792	71,156	*8,364*	*13.3*	497,700	505,492	*7,792*	*1.6*	1,041,904	1,153,291	*111,387*	*10.7*
Black, Non-Hispanic	721	1,612	*891*	*123.6*	34,415	36,592	*2,177*	*6.3*	37,508	43,426	*5,918*	*15.8*
American Indian & Alaskan Native, Non-Hispanic	601	702	*101*	*16.7*	6,122	5,754	*-368*	*-6.0*	9,521	10,179	*658*	*6.9*
Asian & Pacific Islander, Non-Hispanic	1,792	3,176	*1,384*	*77.2*	26,626	39,550	*12,924*	*48.5*	44,539	79,088	*34,549*	*77.6*
Other, Non-Hispanic	33	99	*66*	*199.0*	634	1,216	*582*	*91.8*	899	2,183	*1,284*	*142.8*
Two or More Races, Non-Hispanic	*n/a*	2,664	*n/a*	*n/a*	*n/a*	22,275	*n/a*	*n/a*	*n/a*	39,966	*n/a*	*n/a*
Hispanic (of any race)	2,284	10,619	*8,336*	*365.0*	18,390	49,607	*31,217*	*169.7*	39,920	116,086	*76,166*	*190.8*
Housing Units:												
Total	26,971	35,232	*8,261*	*30.6*	255,751	288,561	*32,810*	*12.8*	489,470	604,428	*114,958*	*23.5*
Occupied units	25,700	33,272	*7,572*	*29.5*	242,140	272,098	*29,958*	*12.4*	464,667	569,461	*104,794*	*22.6*
Vacant units	1,271	1,961	*690*	*54.3*	13,611	16,463	*2,852*	*21.0*	24,803	34,967	*10,164*	*41.0*
Single-family units	16,501	19,958	*3,457*	*21.0*	165,848	181,090	*15,242*	*9.2*	324,974	390,108	*65,134*	*20.0*
Multi-family units	9,148	14,015	*4,867*	*53.2*	82,862	100,393	*17,531*	*21.2*	139,621	188,370	*48,749*	*34.9*
Mobile homes	1,072	1,253	*181*	*16.9*	4,684	6,184	*1,500*	*32.0*	20,867	24,412	*3,545*	*17.0*
Other units	250	80	*-170*	*-68.0*	2,357	894	*-1,463*	*-62.1*	4,008	1,538	*-2,470*	*-61.6*
Occupied Housing Units:												
Owner-occupied units	16,501	18,293	*1,792*	*10.9*	133,981	154,755	*20,774*	*15.5*	280,524	348,374	*67,850*	*24.2*
Renter-occupied units	9,148	14,978	*5,830*	*63.7*	108,159	117,343	*9,184*	*8.5*	184,143	221,087	*36,944*	*20.1*
Single-family units	16,195	19,311	*3,116*	*19.2*	159,237	173,924	*14,687*	*9.2*	313,100	373,940	*60,840*	*19.4*
Multi-family units	8,258	12,703	*4,445*	*53.8*	76,412	91,670	*15,258*	*20.0*	128,076	171,295	*43,219*	*33.7*
Mobile homes	1,020	1,204	*184*	*18.1*	4,405	5,686	*1,281*	*29.1*	19,913	22,928	*3,015*	*15.1*
Other units	227	80	*-147*	*-64.8*	2,086	818	*-1,268*	*-60.8*	3,578	1,298	*-2,280*	*-63.7*
Population in:												
Occupied housing units	67,470	88,908	*21,438*	*31.8*	570,376	643,798	*73,422*	*12.9*	1,154,571	1,420,552	*265,981*	*23.0*
in owner-occupied units	42,507	50,851	*8,344*	*19.6*	341,025	390,119	*49,094*	*14.4*	749,469	921,086	*171,617*	*22.9*
in renter-occupied units	24,963	38,057	*13,093*	*52.5*	229,351	253,679	*24,328*	*10.6*	405,102	499,466	*94,364*	*23.3*
Single-family units	48,029	56,535	*8,506*	*17.7*	423,769	456,798	*33,029*	*7.8*	868,072	1,025,886	*157,814*	*18.2*
Multi-family units	17,206	29,622	*12,416*	*72.2*	134,209	134,209	*0*	*0.0*	235,746	235,746	*0*	*0.0*
Mobile homes	1,778	2,730	*952*	*53.6*	8,248	12,811	*4,563*	*55.3*	43,472	54,135	*10,663*	*24.5*
Other units	458	129	*-329*	*-71.8*	4,150	1,429	*-2,721*	*-65.6*	7,281	2,266	*-5,015*	*-68.9*
Average household size	2.63	2.67	*0.05*	*1.8*	2.36	2.37	*0.01*	*0.4*	2.48	2.49	*0.01*	*0.4*
Households												
Family households	18,080	22,650	*4,570*	*25.3*	143,137	152,232	*9,095*	*6.4*	302,939	357,976	*55,037*	*18.2*
Nonfamily households	7,620	10,622	*3,002*	*39.4*	21,737	31,532	*9,795*	*45.1*	35,439	53,151	*17,712*	*50.0*
1-person housholds	5,773	8,099	*2,326*	*40.3*	77,266	88,334	*11,068*	*14.3*	126,289	158,334	*32,045*	*25.4*
Married-couple families	14,549	16,966	*2,417*	*16.6*	108,171	111,400	*3,229*	*3.0*	242,499	278,780	*36,281*	*15.0*
Households with children	10,193	13,004	*2,811*	*27.6*	70,729	72,114	*1,385*	*2.0*	153,599	176,164	*22,565*	*14.7*
Persons in families	55,993	71,816	*15,823*	*28.3*	428,533	461,361	*32,828*	*7.7*	922,009	1,100,174	*178,165*	*19.3*
Average family size	3.10	3.17	*0.07*	*2.4*	2.99	3.03	*0.04*	*1.2*	3.04	3.07	*0.03*	*1.0*

HOUSING CHARACTERISTICS	ASERT	CENTENNIAL	CITY CENTRAL	GRESHAM BUTTE	HOLLY BROOK	KELLY CREEK	MT HOOD	NORTH CENTRAL	NORTH GRESHAM	NORTH EAST	NORTH WEST	POWELL VALLEY	ROCK WOOD	SOUTH WEST	WILKES EAST	TOTAL
1990																
Housing Units (HU)	987	2,211	835	1,153	925	1,179	763	3,243	1,922	2,364	1,455	2,158	4,328	1,565	1,883	26,971
Occupied units	948	2,138	804	1,138	898	1,163	744	3,114	1,832	1,943	1,426	2,104	4,110	1,545	1,794	25,700
Vacant units	38	73	31	15	27	16	19	129	91	421	29	54	218	20	89	1,271
Owner-occupied HU	539	1,391	169	1,055	537	965	391	1,952	1,124	612	1,111	1,405	1,510	1,430	802	14,994
Renter-occupied HU	409	747	635	83	361	198	353	1,162	707	1,331	315	698	2,601	114	992	10,706
Population in occupied HU:	2,502	5,708	1,746	3,655	2,302	3,569	1,823	8,475	4,472	4,382	3,748	5,504	10,404	4,979	4,199	67,470
in owner-occ. HU	1,414	4,045	385	3,381	1,609	3,057	928	5,548	2,867	1,645	3,084	3,792	3,939	4,587	2,225	42,507
in renter-occ. HU	1,088	1,664	1,361	274	692	512	895	2,927	1,605	2,737	664	1,712	6,465	392	1,975	24,963
2000																
Housing Units (HU)	1,160	3,001	1,026	1,604	1,890	2,198	1,701	3,893	2,103	2,638	1,983	2,445	5,217	2,411	1,961	35,232
Occupied units	1,116	2,839	961	1,550	1,809	2,069	1,578	3,738	1,933	2,405	1,863	2,364	4,875	2,341	1,830	33,272
Vacant units	43	162	65	54	81	129	123	155	170	233	120	81	342	70	132	1,961
Owner-occupied HU	620	1,563	151	1,474	751	1,581	679	2,140	1,242	784	1,211	1,583	1,610	2,037	867	18,293
Renter-occupied HU	497	1,276	810	76	1,058	488	899	1,598	691	1,621	652	781	3,264	304	963	14,978
Population in occupied HU:	2,934	7,522	2,471	4,558	4,316	6,012	3,832	9,787	4,803	5,763	4,654	6,470	14,373	6,785	4,629	88,908
in owner-occ. HU	1,612	4,488	358	4,327	2,042	4,920	1,656	6,011	3,140	1,981	3,304	4,310	4,297	6,007	2,399	50,851
in renter-occ. HU	1,321	3,034	2,113	231	2,274	1,092	2,176	3,775	1,663	3,782	1,350	2,160	10,076	778	2,230	38,057
1990-2000 change																
Housing Units (HU)	173	790	191	451	965	1,019	938	651	181	275	528	287	889	847	78	8,261
Occupied units	168	701	157	412	911	906	834	625	102	462	437	260	765	796	36	7,572
Vacant units	5	89	34	39	54	113	104	26	79	-188	91	27	124	51	42	690
Owner-occupied HU	81	172	-18	419	214	616	288	188	118	172	100	178	101	606	65	3,300
Renter-occupied HU	87	529	175	-7	697	290	546	436	-16	290	337	83	664	190	-29	4,272
Population in occupied HU:	432	1,814	725	902	2,014	2,442	2,009	1,312	330	1,381	906	966	3,969	1,806	430	21,438
in owner-occ. HU	199	443	-27	945	433	1,863	728	463	272	336	220	518	358	1,420	174	8,344
in renter-occ. HU	233	1,371	752	-43	1,582	580	1,281	848	58	1,045	686	448	3,611	386	255	63,944
1990-2000 percent change																
Housing Units (HU)	17.5	35.7	22.8	39.1	104.4	86.5	122.9	20.1	9.4	11.6	36.3	13.3	20.5	54.1	4.2	30.6
Occupied units	17.7	32.8	19.5	36.2	101.4	77.9	112.1	20.1	5.6	23.8	30.6	12.4	18.6	51.5	2.0	29.5
Vacant units	12.7	121.5	107.1	260.2	203.7	707.9	537.0	20.1	87.5	-44.6	313.1	49.9	56.8	255.6	47.5	54.3
Owner-occupied HU	14.9	12.4	-10.6	39.7	39.9	63.8	73.6	9.6	10.5	28.1	9.0	12.6	6.7	42.4	8.1	22.0
Renter-occupied HU	21.4	70.9	27.5	-8.3	192.9	146.8	154.8	37.6	-2.3	21.8	107.0	11.8	25.5	165.9	-3.0	39.9
Population in occupied HU:	17.2	31.8	41.6	24.7	87.5	68.4	110.2	15.5	7.4	31.5	24.2	17.5	38.1	36.3	10.2	31.8
in owner-occ. HU	14.0	11.0	-7.0	28.0	26.9	60.9	78.4	8.3	9.5	20.4	7.1	13.7	9.1	31.0	7.8	19.6
in renter-occ. HU	21.4	82.4	55.3	-15.8	228.4	113.1	143.2	29.0	3.6	38.2	103.3	26.2	55.9	98.4	12.9	52.5

HOUSEHOLD TYPES	ASERT	CENTENNIAL	CITY CENTRAL	GRESHAM BUTTE	HOLLY BROOK	KELLY CREEK	MT HOOD	NORTH CENTRAL	NORTH GRESHAM	NORTH EAST	NORTH WEST	POWELL VALLEY	ROCK WOOD	SOUTH WEST	WILKES EAST	TOTAL
1990																
Family households	692	1,550	394	1,030	589	968	508	2,290	1,212	1,105	1,091	1,503	2,624	1,392	1,131	18,080
Nonfamily households	256	588	409	108	309	195	236	824	620	838	335	601	1,486	153	663	7,620
1-person housholds	203	482	342	70	267	131	187	630	458	613	286	481	1,036	106	482	5,773
Married-couple families	534	1,265	263	950	506	848	380	1,890	948	835	929	1,260	1,782	1,273	886	14,549
Households with children	379	846	221	621	383	608	283	1,315	606	572	529	799	1,584	904	543	10,193
Persons in families	2,092	4,840	1,190	3,440	1,910	3,227	1,488	7,212	3,543	3,179	3,294	4,674	7,972	4,697	3,235	53,901
Average family size	3.02	3.12	3.02	3.34	3.24	3.33	2.93	3.15	2.92	2.88	3.02	3.11	3.04	3.37	2.86	2.98
2000																
Family households	775	1,930	543	1,353	1,032	1,635	964	2,533	1,257	1,312	1,253	1,665	3,252	1,960	1,185	22,650
Nonfamily households	341	909	418	197	777	434	613	1,205	677	1,093	610	699	1,623	380	645	10,622
1-person housholds	263	746	308	153	607	330	461	936	530	798	487	568	1,144	284	484	8,099
Married-couple families	552	1,435	295	1,221	721	1,423	669	1,881	913	868	1,003	1,310	2,063	1,719	893	16,966
Households with children	464	1,042	371	683	694	959	594	1,454	642	774	603	921	2,140	1,070	594	13,004
Persons in families	2,390	6,115	1,733	4,224	3,239	5,339	2,915	7,925	3,782	4,034	3,762	5,379	11,174	6,194	3,611	71,816
Average family size	3.08	3.17	3.19	3.12	3.14	3.27	3.02	3.13	3.01	3.07	3.00	3.23	3.44	3.16	3.05	3.17
1990-2000 change																
Family households	83	380	148	323	443	667	456	243	45	207	162	162	627	568	55	4,570
Nonfamily households	85	321	9	89	468	239	378	381	57	255	275	98	138	228	-19	3,002
1-person housholds	60	265	-34	82	340	199	274	306	72	185	201	87	108	179	2	2,326
Married-couple families	18	170	31	271	215	575	289	-9	-35	33	74	50	281	446	7	2,417
Households with children	85	196	150	61	311	351	311	140	36	202	74	122	556	166	51	2,811
Persons in families	298	1,275	543	784	1,329	2,112	1,427	714	239	855	467	705	3,202	1,497	376	17,916
Average family size	0.06	0.05	0.18	-0.22	-0.10	-0.07	0.09	-0.02	0.09	0.20	-0.02	0.12	0.40	-0.21	0.19	0.19
1990-2000 percent change																
Family households	12.0	24.5	37.6	31.4	75.1	68.9	89.8	10.6	3.7	18.8	14.8	10.8	23.9	40.8	4.8	25.3
Nonfamily households	33.1	54.6	2.1	82.5	151.6	122.5	160.4	46.3	9.2	30.4	82.1	16.4	9.3	149.1	-2.8	39.4
1-person housholds	29.8	55.0	-10.0	116.6	127.2	152.7	146.4	48.7	15.7	30.2	70.3	18.0	10.4	169.2	0.4	40.3
Married-couple families	3.4	13.4	11.8	28.5	42.5	67.8	76.2	-0.5	-3.7	4.0	8.0	4.0	15.8	35.0	0.8	16.6
Households with children	22.3	23.1	67.6	9.9	81.4	57.8	110.1	10.6	6.0	35.2	14.0	15.2	35.1	18.4	9.3	27.6
Persons in families	14.2	26.4	45.6	22.8	69.6	65.5	95.9	9.9	6.8	26.9	14.2	15.1	40.2	31.9	11.6	33.2
Average family size	2.0	1.5	5.8	-6.5	-3.2	-2.1	3.2	-0.7	2.9	6.8	-0.6	3.9	13.1	-6.4	6.5	6.4

RACE / ETHNICITY	ASERT	CENTENNIAL	CITY CENTRAL	GRESHAM BUTTE	HOLLY BROOK	KELLY CREEK	MT HOOD	NORTH CENTRAL	NORTH GRESHAM	NORTH EAST	NORTH WEST	POWELL VALLEY	ROCK WOOD	SOUTH WEST	WILKES EAST	TOTAL
1990																
White, Non-Hispanic	2,363	5,319	1,560	3,435	2,238	3,346	1,710	7,809	4,146	4,168	3,569	5,344	9,317	4,598	3,870	62,792
Black, Non-Hispanic	13	65	15	31	17	27	2	87	60	51	28	48	168	35	74	721
American Indian & Alaskan Native, Non-Hispanic	26	43	16	20	8	11	28	77	48	54	33	36	135	28	38	601
Asian & Pacific Islander, Non-Hispanic	39	212	20	111	67	99	33	256	98	92	118	110	197	211	129	1,792
Other, Non-Hispanic	0	3	0	1	1	1	0	7	1	5	1	0	9	2	2	33
Hispanic (of any race)	109	167	174	57	25	84	50	239	134	174	66	94	694	105	112	2,284
2000																
White, Non-Hispanic	2,524	6,161	1,667	4,118	3,563	5,477	3,301	8,236	3,904	4,691	4,066	5,648	8,446	5,854	3,501	71,156
Black, Non-Hispanic	29	109	48	46	72	32	37	177	103	155	51	74	471	67	140	1,612
American Indian & Alaskan Native, Non-Hispanic	31	35	33	23	44	35	24	79	49	53	44	51	137	34	29	702
Asian & Pacific Islander, Non-Hispanic	43	456	41	127	238	149	71	284	177	124	193	142	404	427	300	3,176
Other, Non-Hispanic	2	11	0	8	6	10	3	9	4	6	7	3	18	9	3	99
Two or More Races, Non-Hispanic	85	317	74	109	144	87	91	293	144	177	121	122	616	146	138	2,664
Hispanic (of any race)	265	669	752	126	312	231	308	760	436	753	219	540	4,388	248	612	10,619
1990-2000 change																
White, Non-Hispanic	161	842	108	683	1,325	2,130	1,591	427	-242	523	497	304	-871	1,256	-368	8,364
Black, Non-Hispanic	16	45	33	15	55	5	35	90	43	104	23	26	303	32	66	891
American Indian & Alaskan Native, Non-Hispanic	6	-7	17	3	36	24	-4	2	1	-1	11	15	2	5	-9	101
Asian & Pacific Islander, Non-Hispanic	4	244	21	16	171	49	38	28	79	32	75	32	207	216	171	1,384
Other, Non-Hispanic	2	8	0	7	5	9	3	2	3	1	6	3	8	7	1	66
Hispanic (of any race)	-24	149	-100	52	119	3	41	54	10	3	55	28	-77	41	26	381
1990-2000 percent change																
White, Non-Hispanic	6.8	15.8	6.9	19.9	59.2	63.7	93.0	5.5	-5.8	12.5	13.9	5.7	-9.4	27.3	-9.5	13.3
Black, Non-Hispanic	126.2	69.2	221.1	49.5	323.5	18.5	1750	103.4	71.7	203.9	82.1	54.0	179.9	91.5	88.9	123.6
American Indian & Alaskan Native, Non-Hispanic	21.9	-17.4	104.1	17.1	450.0	204.9	-13.1	2.6	2.0	-1.9	33.3	43.6	1.4	18.8	-24.8	16.7
Asian & Pacific Islander, Non-Hispanic	9.5	115.5	106.3	14.0	254.8	49.6	115.7	10.9	80.8	34.7	63.5	29.4	105.2	102.5	132.2	77.2
Other, Non-Hispanic	n/a	329.7	n/a	700.0	500.0	900.0	n/a	28.6	300.0	20.0	600.0	n/a	87.2	350.0	50.0	199.0
Hispanic (of any race)	142.8	300.1	331.4	120.7	1164.8	173.7	516.0	218.0	226.3	332.6	231.8	475.9	532.7	137.3	445.4	365.0

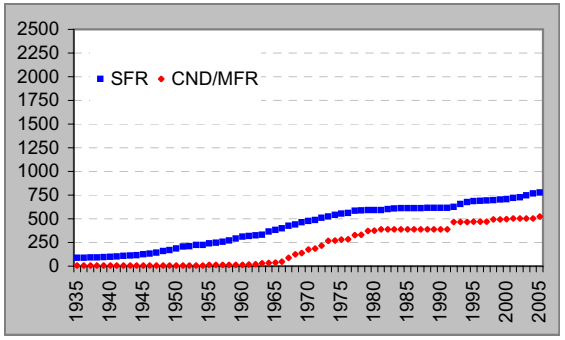
Neighborhood / Year	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
ALL BIRTHS															
ASERT	41	45	55	56	51	48	66	62	58	59	47	73	70	57	58
CENTENNIAL	97	81	91	84	67	80	96	82	100	92	85	116	115	111	130
CITY CENTRAL	37	32	46	33	55	56	61	68	60	61	58	67	56	71	54
GRESHAM BUTTE	44	51	39	41	42	31	34	30	44	43	30	53	42	38	47
HOLLY BROOK	32	43	59	55	55	58	61	73	63	63	61	49	54	60	67
KELLY CREEK	55	68	57	59	59	60	55	61	72	73	82	90	101	117	127
MT. HOOD	29	30	36	36	22	46	36	33	54	66	67	48	54	69	58
NORTH CENTRAL	112	135	122	130	134	136	134	125	149	152	146	150	156	131	159
NORTH GRESHAM	62	62	64	67	62	64	68	80	47	67	65	75	65	71	65
NORTHEAST	80	90	97	81	96	108	100	103	108	112	98	92	95	84	85
NORTHWEST	52	58	54	54	41	53	55	47	54	69	69	77	71	70	67
POWELL VALLEY	79	73	86	81	77	71	80	101	89	88	88	94	82	86	93
ROCKWOOD	225	263	226	260	272	246	277	284	309	345	355	338	352	367	360
SOUTHWEST	74	60	56	56	60	67	63	46	56	76	82	62	48	71	62
WILKES EAST	77	68	80	72	90	72	79	80	91	98	88	99	114	108	108
TOTAL	**1,096**	**1,159**	**1,168**	**1,165**	**1,183**	**1,196**	**1,265**	**1,275**	**1,354**	**1,464**	**1,421**	**1,483**	**1,475**	**1,511**	**1,540**
BIRTHS TO WHITE NON-HISPANIC MOTHERS															
ASERT	39	41	54	48	45	41	54	51	46	51	35	54	51	40	39
CENTENNIAL	90	71	71	76	53	65	80	67	77	69	64	75	70	72	75
CITY CENTRAL	26	25	37	27	38	41	47	45	33	35	33	29	31	32	24
GRESHAM BUTTE	44	50	38	37	39	26	29	27	41	39	28	48	38	31	39
HOLLY BROOK	30	42	56	48	49	49	49	56	52	48	45	34	40	45	58
KELLY CREEK	52	65	54	54	51	51	48	55	70	65	69	79	79	92	102
MT. HOOD	28	28	35	32	21	44	29	29	47	58	58	40	50	54	42
NORTH CENTRAL	100	117	106	116	117	115	111	101	117	126	109	111	114	88	85
NORTH GRESHAM	58	54	61	60	58	53	58	60	38	54	51	46	40	47	42
NORTHEAST	74	78	85	61	79	93	86	83	77	77	69	69	63	59	54
NORTHWEST	47	51	50	50	37	49	52	39	42	54	56	55	54	54	51
POWELL VALLEY	76	64	74	67	60	61	70	76	68	69	57	56	58	54	61
ROCKWOOD	195	218	177	182	186	148	173	158	149	167	171	138	127	128	141
SOUTHWEST	67	55	50	54	56	61	55	45	52	64	70	53	39	59	49
WILKES EAST	67	61	73	52	78	56	60	54	53	55	50	52	49	50	38
TOTAL	**993**	**1,020**	**1,021**	**964**	**967**	**953**	**1,001**	**946**	**962**	**1,031**	**965**	**939**	**903**	**905**	**900**
BIRTHS TO WHITE NON-HISPANIC MOTHERS AS A PERCENTAGE OF ALL BIRTHS															
ASERT	95.1	91.1	98.2	85.7	88.2	85.4	81.8	82.3	79.3	86.4	74.5	74.0	72.9	70.2	67.2
CENTENNIAL	92.8	87.7	78.0	90.5	79.1	81.3	83.3	81.7	77.0	75.0	75.3	64.7	60.9	64.9	57.7
CITY CENTRAL	70.3	78.1	80.4	81.8	69.1	73.2	77.0	66.2	55.0	57.4	56.9	43.3	55.4	45.1	44.4
GRESHAM BUTTE	100.0	98.0	97.4	90.2	92.9	83.9	85.3	90.0	93.2	90.7	93.3	90.6	90.5	81.6	83.0
HOLLY BROOK	93.8	97.7	94.9	87.3	89.1	84.5	80.3	76.7	82.5	76.2	73.8	69.4	74.1	75.0	86.6
KELLY CREEK	94.5	95.6	94.7	91.5	86.4	85.0	87.3	90.2	97.2	89.0	84.1	87.8	78.2	78.6	80.3
MT. HOOD	96.6	93.3	97.2	88.9	95.5	95.7	80.6	87.9	87.0	87.9	86.6	83.3	92.6	78.3	72.4
NORTH CENTRAL	89.3	86.7	86.9	89.2	87.3	84.6	82.8	80.8	78.5	82.9	74.7	74.0	73.1	67.2	53.5
NORTH GRESHAM	93.5	87.1	95.3	89.6	93.5	82.8	85.3	75.0	80.9	80.6	78.5	61.3	61.5	66.2	64.6
NORTHEAST	92.5	86.7	87.6	75.3	82.3	86.1	86.0	80.6	71.3	68.8	70.4	75.0	66.3	70.2	63.5
NORTHWEST	90.4	87.9	92.6	92.6	90.2	92.5	94.5	83.0	77.8	78.3	81.2	71.4	76.1	77.1	76.1
POWELL VALLEY	96.2	87.7	86.0	82.7	77.9	85.9	87.5	75.2	76.4	78.4	64.8	59.6	70.7	62.8	65.6
ROCKWOOD	86.7	82.9	78.3	70.0	68.4	60.2	62.5	55.6	48.2	48.4	48.2	40.8	36.1	34.9	39.2
SOUTHWEST	90.5	91.7	89.3	96.4	93.3	91.0	87.3	97.8	92.9	84.2	85.4	85.5	81.3	83.1	79.0
WILKES EAST	87.0	89.7	91.3	72.2	86.7	77.8	75.9	67.5	58.2	56.1	56.8	52.5	43.0	46.3	35.2
TOTAL	**90.6**	**88.0**	**87.4**	**82.7**	**81.7**	**79.7**	**79.1**	**74.2**	**71.0**	**70.4**	**67.9**	**63.3**	**61.2**	**59.9**	**58.4**

Neighborhood / Year	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
BIRTHS TO MOTHERS OF COLOR															
ASERT	2	4	1	8	6	7	12	11	12	8	12	19	19	17	19
CENTENNIAL	7	10	20	8	14	15	16	15	23	23	21	41	45	39	55
CITY CENTRAL	11	7	9	6	17	15	14	23	27	26	25	38	25	39	30
GRESHAM BUTTE		1	1	4	3	5	5	3	3	4	2	5	4	7	8
HOLLY BROOK	2	1	3	7	6	9	12	17	11	15	16	15	14	15	9
KELLY CREEK	3	3	3	5	8	9	7	6	2	8	13	11	22	25	25
MT. HOOD	1	2	1	4	1	2	7	4	7	8	9	8	4	15	16
NORTH CENTRAL	12	18	16	14	17	21	23	24	32	26	37	39	42	43	74
NORTH GRESHAM	4	8	3	7	4	11	10	20	9	13	14	29	25	24	23
NORTHEAST	6	12	12	20	17	15	14	20	31	35	29	23	32	25	31
NORTHWEST	5	7	4	4	4	4	3	8	12	15	13	22	17	16	16
POWELL VALLEY	3	9	12	14	17	10	10	25	21	19	31	38	24	32	32
ROCKWOOD	30	45	49	78	86	98	104	126	160	178	184	200	225	239	219
SOUTHWEST	7	5	6	2	4	6	8	1	4	12	12	9	9	12	13
WILKES EAST	10	7	7	20	12	16	19	26	38	43	38	47	65	58	70
TOTAL	**103**	**139**	**147**	**201**	**216**	**243**	**264**	**329**	**392**	**433**	**456**	**544**	**572**	**606**	**640**
BIRTHS TO HISPANIC MOTHERS															
ASERT	2	2	1	5	5	3	10	9	10	7	11	15	14	16	12
CENTENNIAL	2	3	11	2	4	12	8	6	12	10	15	24	27	26	36
CITY CENTRAL	10	7	7	6	14	14	11	22	22	20	20	32	23	32	29
GRESHAM BUTTE			1	1	1	2	2		3	1		5	2	4	4
HOLLY BROOK			1	4	3	6	4	7	6	11	8	6	11	8	6
KELLY CREEK			2	1	4	9	3	3	1	4	8	9	11	19	17
MT. HOOD		2		1			3	4	2	6	8	6	3	9	9
NORTH CENTRAL	3	10	7	6	5	12	12	13	21	18	28	31	34	31	54
NORTH GRESHAM	3	5	3	3	3	5	2	15	4	7	9	19	17	15	15
NORTHEAST	3	5	8	17	11	13	9	16	22	24	20	15	23	20	25
NORTHWEST	1	2	2	2	2	2	2	4	8	6	7	10	6	8	8
POWELL VALLEY	2	8	11	11	13	9	8	17	15	13	23	30	20	29	26
ROCKWOOD	21	32	43	65	71	79	83	97	137	144	150	168	196	206	183
SOUTHWEST	1	2	2		1	1	4		1	3	8	5	1	6	2
WILKES EAST	5	2	5	12	5	11	10	18	26	33	25	35	51	42	43
TOTAL	**53**	**80**	**104**	**136**	**142**	**178**	**171**	**231**	**290**	**307**	**340**	**410**	**439**	**471**	**469**
BIRTHS TO HISPANIC MOTHERS AS A PERCENTAGE OF ALL BIRTHS															
ASERT	4.9	4.4	1.8	8.9	9.8	6.3	15.2	14.5	17.2	11.9	23.4	20.5	20.0	28.1	20.7
CENTENNIAL	2.1	3.7	12.1	2.4	6.0	15.0	8.3	7.3	12.0	10.9	17.6	20.7	23.5	23.4	27.7
CITY CENTRAL	27.0	21.9	15.2	18.2	25.5	25.0	18.0	32.4	36.7	32.8	34.5	47.8	41.1	45.1	53.7
GRESHAM BUTTE	0.0	0.0	2.6	2.4	2.4	6.5	5.9	0.0	6.8	2.3	0.0	9.4	4.8	10.5	8.5
HOLLY BROOK	0.0	0.0	1.7	7.3	5.5	10.3	6.6	9.6	9.5	17.5	13.1	12.2	20.4	13.3	9.0
KELLY CREEK	0.0	0.0	3.5	1.7	6.8	15.0	5.5	4.9	1.4	5.5	9.8	10.0	10.9	16.2	13.4
MT. HOOD	0.0	6.7	0.0	2.8	0.0	0.0	8.3	12.1	3.7	9.1	11.9	12.5	5.6	13.0	15.5
NORTH CENTRAL	2.7	7.4	5.7	4.6	3.7	8.8	9.0	10.4	14.1	11.8	19.2	20.7	21.8	23.7	34.0
NORTH GRESHAM	4.8	8.1	4.7	4.5	4.8	7.8	2.9	18.8	8.5	10.4	13.8	25.3	26.2	21.1	23.1
NORTHEAST	3.8	5.6	8.2	21.0	11.5	12.0	9.0	15.5	20.4	21.4	20.4	16.3	24.2	23.8	29.4
NORTHWEST	1.9	3.4	3.7	3.7	4.9	3.8	3.6	8.5	14.8	8.7	10.1	13.0	8.5	11.4	11.9
POWELL VALLEY	2.5	11.0	12.8	13.6	16.9	12.7	10.0	16.8	16.9	14.8	26.1	31.9	24.4	33.7	28.0
ROCKWOOD	9.3	12.2	19.0	25.0	26.1	32.1	30.0	34.2	44.3	41.7	42.3	49.7	55.7	56.1	50.8
SOUTHWEST	1.4	3.3	3.6	0.0	1.7	1.5	6.3	0.0	1.8	3.9	9.8	8.1	2.1	8.5	3.2
WILKES EAST	6.5	2.9	6.3	16.7	5.6	15.3	12.7	22.5	28.6	33.7	28.4	35.4	44.7	38.9	39.8
TOTAL	**4.8**	**6.9**	**8.9**	**11.7**	**12.0**	**14.9**	**13.5**	**18.1**	**21.4**	**21.0**	**23.9**	**27.6**	**29.8**	**31.2**	**30.5**

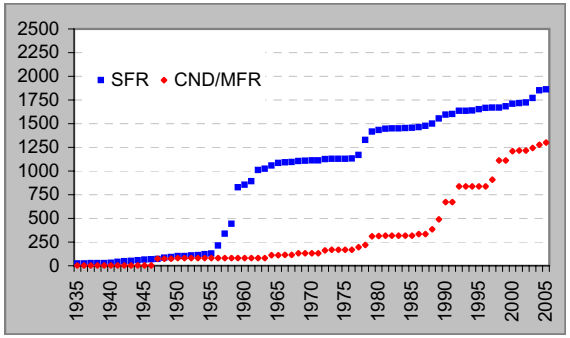
Neighborhood / Year	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
BIRTHS TO BLACK OR AFRICAN AMERICAN MOTHERS															
ASERT		1				1	1	1	2	1		2	1	1	2
CENTENNIAL		1	1	2	4	1	1	5	3	2		1	4	4	3
CITY CENTRAL			1		1		1		3	2	1	1		5	1
GRESHAM BUTTE							2							2	1
HOLLY BROOK					1		1		1	1	1	2		2	1
KELLY CREEK	1			1	2		1			1	2		2	1	
MT. HOOD					1		1				1	1		2	
NORTH CENTRAL	2	1	3		3	2	5	4	2	2	3	3		3	5
NORTH GRESHAM		1		1		2	3				1	5	1	3	3
NORTHEAST	1		2	2	4	1	3	1	4	4	3	1	5	4	
NORTHWEST								1			2	4	1	3	1
POWELL VALLEY			1	1	1			1	3	1	2	3			2
ROCKWOOD	3	2	2	3	9	9	10	11	10	14	21	15	18	22	22
SOUTHWEST					1		1			2			1		1
WILKES EAST	2	1		4	2		6	1	4	2	5	3	5	6	11
TOTAL	**9**	**7**	**10**	**14**	**29**	**16**	**36**	**25**	**32**	**32**	**42**	**41**	**38**	**58**	**53**
BIRTHS TO ASIAN AND PACIFIC ISLANDER MOTHERS															
ASERT				2							1		1		5
CENTENNIAL	5	5	8	3	4	2	4	4	7	11	6	15	13	8	15
CITY CENTRAL			1		1			1	2	3	2	3	1		
GRESHAM BUTTE		1		3	2	2	1	3		2	1		2		2
HOLLY BROOK	1	1	1	3	2	4	7	6	3	3	7	5	1	5	1
KELLY CREEK	2	3		2	2		3	1	1	2	2	2	5	4	6
MT. HOOD				3		2	1		3	2		1		4	5
NORTH CENTRAL	4	5	2	7	8	5	6	7	8	3	6	5	7	5	10
NORTH GRESHAM	1	1				3	4	3	4	6	3	4	6	6	3
NORTHEAST	2	7	2	1	2		1	2	3	3	4	6	2	1	4
NORTHWEST	2	4	1		1	1	1	2	3	6	3	7	3	5	5
POWELL VALLEY		1		1	2	1	1	4	2	3	4	4	1		3
ROCKWOOD	2	6	3	8	6	4	9	12	8	17	14	11	9	8	12
SOUTHWEST	6	2	3	2	1	5	3	1	4	7	4	3	7	6	9
WILKES EAST	3	3	2	4	4	4	2	6	7	7	8	4	8	10	15
TOTAL	**28**	**39**	**23**	**39**	**35**	**33**	**43**	**52**	**55**	**75**	**65**	**70**	**66**	**62**	**95**
BIRTHS TO AMERICAN INDIAN AND NATIVE ALASKAN MOTHERS															
ASERT		1		1	1	3	1	1					2		
CENTENNIAL	1	1		1	2		3						1	1	2
CITY CENTRAL	1				1	1	2			1	2	2	1		
GRESHAM BUTTE						1					1				1
HOLLY BROOK	1		1					3	1		1		1		1
KELLY CREEK			1	1						1			3		1
MT. HOOD	1		1				2		2	1					2
NORTH CENTRAL	2	2	4	2	1	2			2	3				1	3
NORTH GRESHAM	1	1		3	1	1	1	2	1		2	1	1	1	2
NORTHEAST	1			1		1	1	1	2	4	2	1			2
NORTHWEST	2	1	1	2	1	1		1	1	2	1	2	6		2
POWELL VALLEY	1			1	1		1	2	1	1	3	1	2	1	1
ROCKWOOD	4	6	1	3	3	7	4	5	5	3	1	4	1	2	6
SOUTHWEST		1	1		1					1		1			1
WILKES EAST		1			1	2		1	1	1	1	5			2
TOTAL	**15**	**14**	**10**	**15**	**13**	**19**	**15**	**16**	**16**	**18**	**14**	**17**	**18**	**6**	**26**

HOUSING UNITS BY YEAR BUILT AND HOUSING TYPE, BY NEIGHBORHOOD, 1935-2005

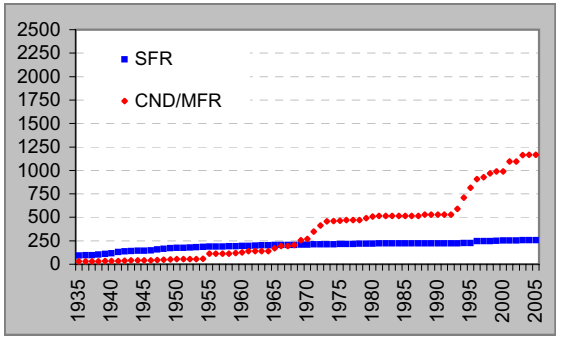
ASERT



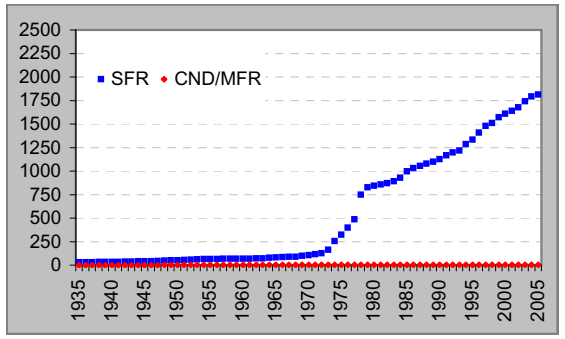
CENTENNIAL



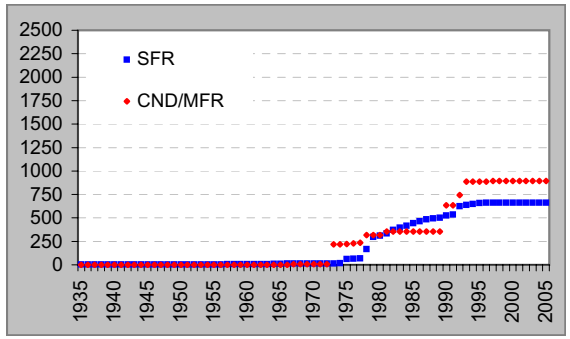
CITY CENTRAL



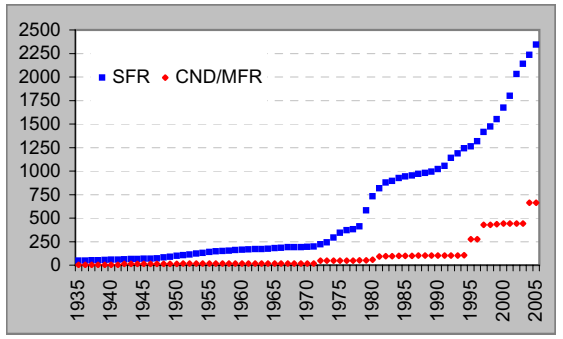
GRESHAM BUTTE



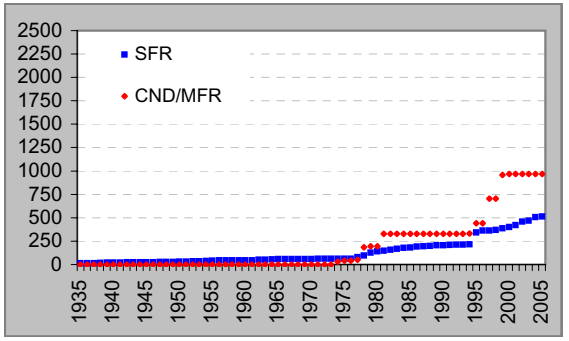
HOLLY BROOK



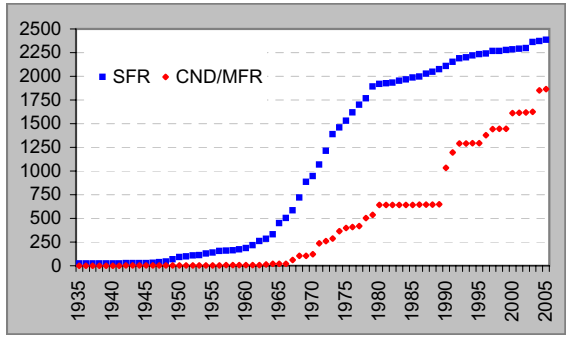
KELLY CREEK



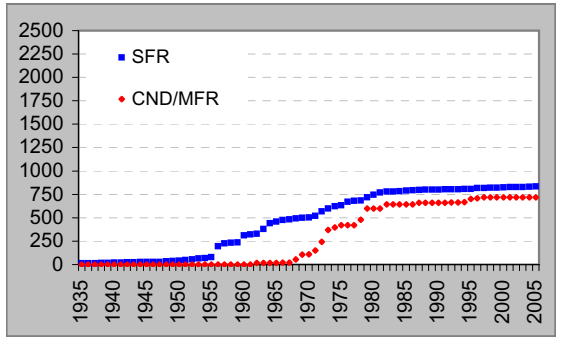
MT HOOD



NORTH CENTRAL

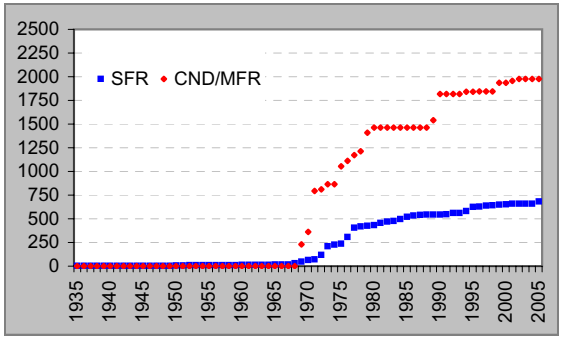


NORTH GRESHAM

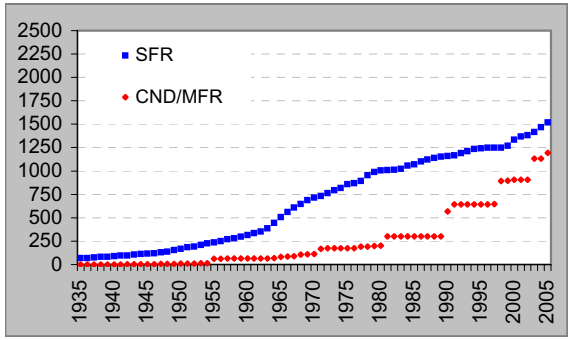


HOUSING UNITS BY YEAR BUILT AND HOUSING TYPE, BY NEIGHBORHOOD, 1935-2005 (CONT.)

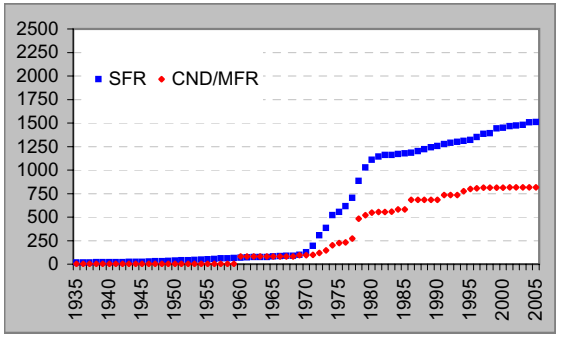
NORTHEAST



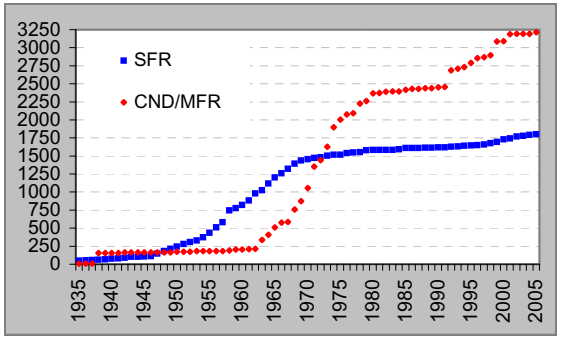
NORTHWEST



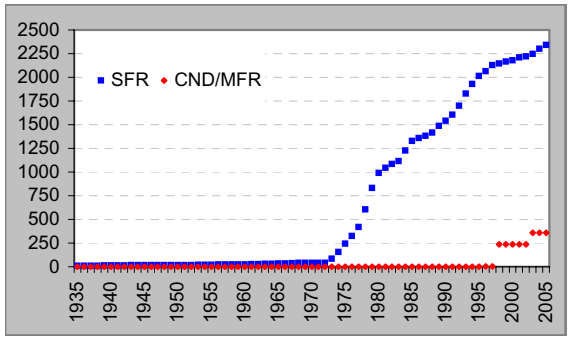
POWELL VALLEY



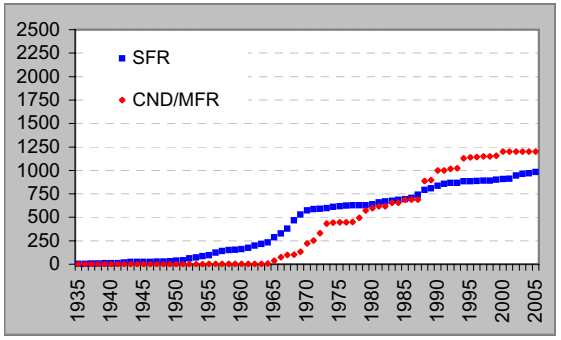
ROCKWOOD



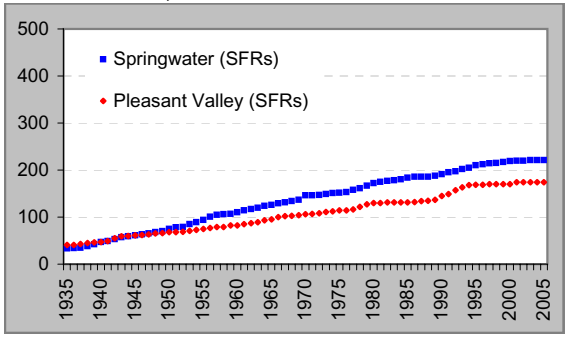
SOUTHWEST



WILKES EAST



PLEASANT VALLEY; SPRINGWATER



2005-2020 Population Forecasts, Gresham, Oregon

Females

Actual & estimated -------> Projected ---------->

	1990	2000	2005	2010	2015	2020
0-4	2,639	3,534	3,861	4,056	4,122	4,185
5-9	2,626	3,403	3,789	4,042	4,225	4,251
10-14	2,550	3,245	3,579	3,886	4,110	4,269
15-19	2,383	3,404	3,394	3,620	3,890	4,108
20-24	2,467	3,523	3,598	3,485	3,675	3,914
25-29	2,888	3,399	3,792	3,764	3,583	3,741
30-34	3,260	3,073	3,642	3,942	3,839	3,632
35-39	3,103	3,410	3,197	3,686	3,961	3,840
40-44	2,877	3,637	3,435	3,172	3,653	3,932
45-49	2,105	3,351	3,646	3,364	3,079	3,552
50-54	1,464	2,849	3,208	3,438	3,166	2,883
55-59	1,235	2,026	2,759	3,060	3,273	3,012
60-64	1,227	1,421	1,959	2,616	2,871	3,024
65-69	1,199	1,192	1,331	1,800	2,384	2,602
70-74	1,019	1,197	1,112	1,200	1,594	2,077
75-79	833	1,136	1,104	1,016	1,080	1,415
80-84	590	939	1,066	1,026	961	1,011
85+	653	947	964	1,120	1,082	1,052
Total	35,118	45,685	49,437	52,291	54,549	56,499

Females	1990	2000	2005	2010	2015	2020
0-19	10,198	13,586	14,623	15,604	16,347	16,813
20-64	20,626	26,689	29,237	30,525	31,101	31,529
65+	4,294	5,411	5,577	6,162	7,101	8,157
Total	35,118	45,685	49,437	52,291	54,549	56,499

Change	1990-00	2000-05	2005-10	2010-15	2015-20	2005-2020
0-19	3,388	1,038	981	743	466	2,190
20-64	6,063	2,548	1,288	577	428	2,292
65+	1,117	166	585	938	1,056	2,580
Total	10,567	3,752	2,854	2,258	1,950	7,062

Annual growth rates, %	1990-00	2000-05	2005-10	2010-15	2015-20	2005-2020
0-19	3.3	1.3	1.3	1.0	0.6	1.0
20-64	2.9	1.7	0.9	0.4	0.3	0.5
65+	2.6	0.5	2.1	3.0	3.0	3.1
Total	3.0	1.4	1.2	0.9	0.7	1.0

Males

Actual & estimated -------> Projected ---------->

	1990	2000	2005	2010	2015	2020
0-4	2,806	3,646	3,987	4,169	4,236	4,321
5-9	2,702	3,542	3,925	4,188	4,355	4,378
10-14	2,562	3,446	3,705	4,010	4,246	4,393
15-19	2,335	3,497	3,615	3,750	4,012	4,239
20-24	2,462	3,632	3,721	3,723	3,810	4,030
25-29	2,882	3,513	3,961	3,927	3,844	3,880
30-34	3,101	3,301	3,852	4,180	4,031	3,904
35-39	3,068	3,527	3,418	3,870	4,165	3,992
40-44	2,806	3,509	3,556	3,377	3,810	4,096
45-49	2,072	3,354	3,500	3,457	3,272	3,704
50-54	1,482	2,780	3,205	3,300	3,257	3,076
55-59	1,169	1,988	2,670	3,043	3,134	3,102
60-64	1,115	1,358	1,821	2,397	2,689	2,691
65-69	929	983	1,167	1,534	2,002	2,231
70-74	673	886	848	926	1,193	1,529
75-79	499	703	741	702	758	968
80-84	269	483	569	594	573	612
85+	185	372	372	447	468	466
Total	33,117	44,519	48,635	51,594	53,856	55,613

Males	1990	2000	2005	2010	2015	2020
0-19	10,405	14,131	15,233	16,117	16,850	17,331
20-64	20,157	26,961	29,705	31,273	32,013	32,475
65+	2,555	3,427	3,697	4,203	4,994	5,807
Total	33,117	44,519	48,635	51,594	53,856	55,613

Change	1990-00	2000-05	2005-10	2010-15	2015-20	2005-2020
0-19	3,726	1,102	884	733	481	2,098
20-64	6,804	2,743	1,569	739	463	2,771
65+	872	271	505	791	814	2,110
Total	11,402	4,116	2,959	2,263	1,757	6,979

Annual growth rates, %	1990-00	2000-05	2005-10	2010-15	2015-20	2005-2020
0-19	3.6	1.4	1.2	0.9	0.6	0.9
20-64	3.4	1.8	1.1	0.5	0.3	0.6
65+	3.4	1.4	2.7	3.8	3.3	3.8
Total	3.4	1.6	1.2	0.9	0.7	1.0

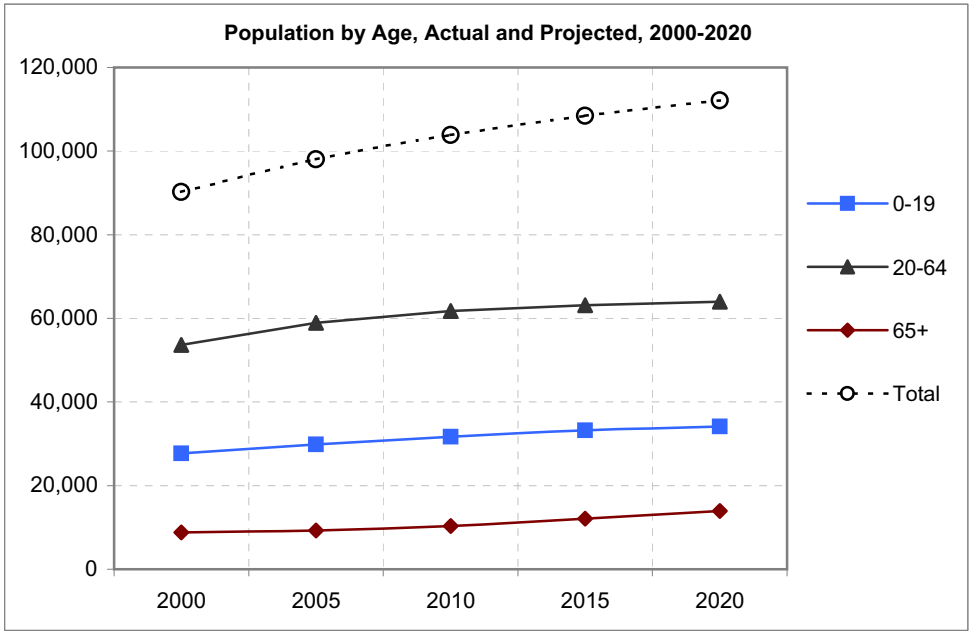
2005-2020 Population Forecasts, Gresham, Oregon

Total	Actual & estimated ------->			Projected ---------->		
	1990	2000	2005	2010	2015	2020
0-4	5,445	7,180	7,848	8,225	8,358	8,506
5-9	5,328	6,945	7,714	8,230	8,581	8,629
10-14	5,112	6,691	7,285	7,895	8,356	8,662
15-19	4,718	6,901	7,009	7,370	7,902	8,347
20-24	4,929	7,154	7,319	7,208	7,485	7,944
25-29	5,770	6,912	7,753	7,691	7,427	7,621
30-34	6,361	6,375	7,494	8,122	7,870	7,536
35-39	6,171	6,936	6,615	7,556	8,126	7,832
40-44	5,683	7,147	6,991	6,549	7,463	8,028
45-49	4,177	6,704	7,146	6,821	6,351	7,256
50-54	2,946	5,628	6,414	6,738	6,423	5,959
55-59	2,404	4,015	5,429	6,102	6,408	6,114
60-64	2,342	2,778	3,780	5,013	5,561	5,715
65-69	2,128	2,174	2,499	3,334	4,386	4,833
70-74	1,692	2,083	1,960	2,126	2,787	3,606
75-79	1,332	1,839	1,845	1,718	1,839	2,384
80-84	859	1,422	1,635	1,621	1,533	1,623
85+	838	1,320	1,336	1,566	1,550	1,518
Total	68,235	90,204	98,072	103,885	108,406	112,113

Total	1990	2000	2005	2010	2015	2020
0-19	20,603	27,717	29,856	31,722	33,197	34,144
20-64	40,783	53,650	58,941	61,798	63,114	64,005
65+	6,849	8,838	9,275	10,365	12,094	13,964
Total	68,235	90,204	98,072	103,885	108,406	112,113

Change	1990-00	2000-05	2005-10	2010-15	2015-20	2005-2020
0-19	7,114	2,139	1,865	1,476	947	4,288
20-64	12,867	5,292	2,857	1,316	891	5,063
65+	1,989	437	1,091	1,729	1,870	4,689
Total	21,969	7,868	5,813	4,520	3,707	14,041

Annual growth rates, %	1990-00	2000-05	2005-10	2010-15	2015-20	2005-2020
0-19	3.5	1.3	1.2	0.9	0.6	1.0
20-64	3.2	1.7	1.0	0.4	0.3	0.6
65+	2.9	0.9	2.4	3.3	3.1	3.4
Total	3.2	1.5	1.2	0.9	0.7	1.0



NETWORK-DISTANCE AND QUALITY CLASS SUMMARIES BY NEIGHBORHOOD

CLOSEST DEVELOPED PARK

NEIGHBORHOOD	Weighted Average distance to closest PARK (miles)	Weighted Average Quality Class of closest PARK (range of 1-5)	*significance of park to distance and quality values (percent)*																		
			Aspen Highlands NP	Bella Vista NP	Butler Creek NP	Cedar NP	Davis NP	Hall NP	Hollybrook NP	John Deere Field NP	Kane Road NP	Kirk NP	Linneman Station NP	Main City CP	North Gresham NP	Pat Pfeifer CP	Red Sunset CP	Rockwood Central NP	Thom NP	Vance NP	Yamhill NP
ASERT	0.34	3.42	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**47.2**	0.0	0.0	0.0	0.0	**52.8**	0.0	0.0
CENTENNIAL	0.60	2.73	0.0	**2.2**	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**41.6**	0.0	0.0	0.0	0.0	**9.4**	0.0	**46.8**	0.0
CITY CENTRAL	0.31	2.82	0.0	0.0	0.0	**54.0**	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**43.8**	**2.2**	0.0	0.0	0.0	0.0	0.0	0.0
GRESHAM BUTTE	1.08	2.89	0.0	0.0	**30.4**	0.0	0.0	0.0	**12.6**	0.0	0.0	0.0	0.0	**19.5**	0.0	0.0	0.0	0.0	**37.5**	0.0	0.0
HOLLYBROOK	0.31	2.28	0.0	**13.2**	0.0	0.0	0.0	0.0	**69.8**	0.0	0.0	0.0	**9.1**	**7.9**	0.0	0.0	0.0	0.0	0.0	0.0	0.0
KELLY CREEK	1.80	4.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**100.0**	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MT HOOD	1.07	2.25	0.0	0.0	0.0	**2.5**	0.0	0.0	0.0	0.0	**11.0**	0.0	0.0	**1.7**	0.0	0.0	0.0	0.0	**84.8**	0.0	0.0
NORTH CENTRAL	0.46	3.64	**21.8**	0.0	0.0	**4.7**	3.6	**0.1**	0.0	0.0	0.0	0.0	0.0	0.0	**39.6**	0.0	**28.7**	0.0	0.0	0.0	**1.4**
NORTH GRESHAM	0.84	2.24	0.0	0.0	0.0	0.0	**23.3**	0.0	0.0	**52.7**	0.0	**23.7**	0.0	0.0	0.0	**0.4**	0.0	0.0	0.0	0.0	0.0
NORTHEAST	0.47	3.20	0.0	0.0	0.0	0.0	0.0	**47.9**	0.0	0.0	**35.7**	0.0	0.0	0.0	0.0	0.0	**16.3**	0.0	0.0	0.0	0.0
NORTHWEST	0.50	3.25	0.0	**62.9**	0.0	**3.1**	0.0	0.0	0.0	0.0	0.0	0.0	**0.6**	**2.9**	**28.8**	0.0	0.0	0.0	0.0	0.0	1.8
POWELL VALLEY	0.64	3.82	0.0	0.0	0.0	**6.0**	0.0	0.0	0.0	0.0	**94.0**	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ROCKWOOD	0.35	3.45	0.0	**0.4**	0.0	0.0	**20.1**	0.0	0.0	0.0	0.0	**5.2**	0.0	0.0	0.0	**39.5**	0.0	**10.0**	0.0	**12.5**	**12.3**
SOUTHWEST	0.51	2.57	0.0	0.0	**78.5**	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**21.5**	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WILKES EAST	0.80	3.25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**30.7**	0.0	**7.0**	0.0	0.0	0.0	**62.3**	0.0	0.0	0.0	0.0	0.0
PLEASANT VALLEY	1.67	2.72	0.0	0.0	**86.0**	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**14.0**	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SPRINGWATER	2.32	2.86	0.0	0.0	**0.3**	0.0	0.0	0.0	0.0	0.0	**42.9**	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**56.8**	0.0	0.0

CLOSEST DEVELOPED NEIGHBORHOOD PARK

NEIGHBORHOOD	Weighted Average distance to closest NPs (miles)	Weighted Average Quality Class of Closest NPs (range of 1-5)	*significance of park to distance and quality values (percent)*																
			Aspen Highlands NP	Bella Vista NP	Butler Creek NP	Cedar NP	Davis NP	Hall NP	Hollybrook NP	John Deere Field NP	Kane Road NP	Kirk NP	Linneman Station NP	North Gresham NP	Rockwood Central NP	Thom NP	Vance NP	Yamhill NP
ASERT	0.46	1.90	0.0	0.0	0.0	**10.2**	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**89.8**	0.0	0.0
CENTENNIAL	0.60	2.73	0.0	**2.2**	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**41.6**	0.0	**9.4**	0.0	**46.8**	0.0
CITY CENTRAL	0.45	1.17	0.0	**3.2**	0.0	**91.0**	0.0	0.0	**1.1**	0.0	0.0	0.0	0.0	**2.2**	0.0	**2.5**	0.0	0.0
GRESHAM BUTTE	1.16	2.30	0.0	0.0	**30.4**	0.0	0.0	0.0	**19.4**	0.0	0.0	0.0	0.0	0.0	0.0	**50.2**	0.0	0.0
HOLLYBROOK	0.32	2.06	0.0	**15.4**	0.0	0.0	0.0	0.0	**75.5**	0.0	0.0	0.0	**9.1**	0.0	0.0	0.0	0.0	0.0
KELLY CREEK	1.80	4.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**100.0**	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MT HOOD	1.07	2.20	0.0	0.0	0.0	**2.5**	0.0	0.0	0.0	0.0	**11.2**	0.0	0.0	0.0	0.0	**86.3**	0.0	0.0
NORTH CENTRAL	0.56	2.75	**35.5**	0.0	0.0	**8.9**	**3.6**	**10.5**	0.0	0.0	0.0	0.0	0.0	**40.1**	0.0	0.0	0.0	**1.4**
NORTH GRESHAM	0.84	2.23	0.0	0.0	0.0	0.0	**23.3**	0.0	0.0	**52.7**	0.0	**24.0**	0.0	0.0	0.0	0.0	0.0	0.0
NORTHEAST	0.52	2.70	0.0	0.0	0.0	**1.0**	0.0	**63.3**	0.0	0.0	**35.7**	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NORTHWEST	0.51	3.19	0.0	**65.2**	0.0	**3.6**	0.0	0.0	0.0	0.0	0.0	0.0	**0.6**	**28.8**	0.0	0.0	0.0	**1.8**
POWELL VALLEY	0.64	3.82	0.0	0.0	0.0	**6.0**	0.0	0.0	0.0	0.0	**94.0**	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ROCKWOOD	0.54	3.31	0.0	**0.4**	0.0	0.0	**20.1**	0.0	0.0	0.0	0.0	**11.8**	0.0	0.0	**42.2**	0.0	**13.2**	**12.3**
SOUTHWEST	0.51	2.57	0.0	0.0	**78.5**	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**21.5**	0.0	0.0	0.0	0.0	0.0
WILKES EAST	1.03	2.06	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**54.6**	0.0	**42.4**	0.0	0.0	**3.0**	0.0	0.0	0.0
PLEASANT VALLEY	1.67	2.72	0.0	0.0	**86.0**	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**14.0**	0.0	0.0	0.0	0.0	0.0
SPRINGWATER	2.32	2.86	0.0	0.0	**0.3**	0.0	0.0	0.0	0.0	0.0	**42.9**	0.0	0.0	0.0	0.0	**56.8**	0.0	0.0

MODEL SUMMARIES BY NEIGHBORHOOD

MODEL 1 (DISTANCE, PARK-TYPES EQUAL WEIGHT)

	COUNT	MIN	MAX	RANGE	MEAN	STD	MEDIAN
GRESHAM PRE-0506 BNDS	23959	0	16	16	8.504	3.090	9
with SW & PV	26058	0	16	16	8.085	3.337	8
ASERT	765	7	16	9	12.719	2.011	13
CENTENNIAL	1738	1	13	12	6.185	2.482	6
CITY CENTRAL	1021	7	14	7	11.689	1.639	12
GRESHAM BUTTE	2306	0	15	15	8.023	4.175	9
HOLLYBROOK	676	9	15	6	12.614	1.452	13
KELLY CREEK	2384	1	11	10	5.399	2.339	5
MT HOOD	959	4	13	9	8.102	2.268	8
NORTH CENTRAL	2677	2	13	11	7.800	2.251	8
NORTH GRESHAM	1570	1	14	13	7.426	3.195	8
NORTHEAST	1042	3	13	10	9.244	1.940	9
NORTHWEST	1655	5	14	9	10.310	1.990	11
POWELL VALLEY	1520	4	13	9	9.173	2.175	10
ROCKWOOD	2150	3	12	9	8.373	1.435	8
SOUTHWEST	2199	2	13	11	9.409	2.224	10
WILKES EAST	1296	1	14	13	9.083	2.730	8
SPRINGWATER	937	0	8	8	3.584	1.997	3
PLEASANT VALLEY	652	0	7	7	2.400	1.565	2

NETWORK-DISTANCE AND QUALITY
CLASS SUMMARIES BY NEIGHBORHOOD (Cont.)

CLOSEST DEVELOPED COMMUNITY PARK

NEIGHBORHOOD	Weighted Average distance to closest CPs (miles)	Weighted Average Quality Class of closest CPs (range of 1-5)	*significance of park to distance & quality values (%)*		
			Main City CP	Pat Pfeifer CP	Sunset CP
ASERT	0.52	5.00	**100**	0.0	0.0
CENTENNIAL	1.90	4.26	**25.8**	**74.2**	0.0
CITY CENTRAL	0.47	5.00	**94.0**	0.0	**6.0**
GRESHAM BUTTE	1.43	5.00	**100**	0.0	0.0
HOLLYBROOK	1.12	5.00	**100**	0.0	0.0
KELLY CREEK	2.61	5.00	**100**	0.0	0.0
MT HOOD	1.47	5.00	**98.7**	0.0	**1.3**
NORTH CENTRAL	1.03	4.91	**13.1**	**9.2**	**77.7**
NORTH GRESHAM	1.88	4.01	0.0	**99.5**	**0.5**
NORTHEAST	0.95	5.00	0.0	0.0	100.0
NORTHWEST	1.24	4.98	**98.0**	**2.0**	0.0
POWELL VALLEY	1.73	5.00	**58.0**	0.0	**42.0**
ROCKWOOD	0.76	4.00	**0.1**	**99.9**	0.0
SOUTHWEST	2.41	5.00	**99.7**	**0.3**	0.0
WILKES EAST	1.01	4.00	0.0	**100**	0.0
PLEASANT VALLEY	3.94	4.71	**71.5**	**28.5**	0.0
SPRINGWATER	2.76	5.00	**100**	0.0	0.0

MODEL SUMMARIES BY NEIGHBORHOOD (Cont.)

MODEL 2 EXISTING CONDITIONS (DISTANCE, TRL & OS WT@0.5)

	MIN	MAX	RANGE	MEAN	STD	MEDIAN
GRESHAM PRE-0506 BNDS	0.0	12.0	12.0	6.044	2.457	6.5
with SW & PV	0.0	12.0	12.0	5.706	2.650	6.0
ASERT	5.5	12.0	6.5	9.461	1.450	10.0
CENTENNIAL	0.5	9.0	8.5	4.562	1.796	4.5
CITY CENTRAL	5.5	11.0	5.5	8.984	1.084	9.5
GRESHAM BUTTE	0.0	11.0	11.0	5.211	2.955	5.5
HOLLYBROOK	6.0	11.0	5.0	9.145	1.000	9.5
KELLY CREEK	0.5	7.0	6.5	2.797	1.334	2.5
MT HOOD	2.0	9.5	7.5	5.232	1.976	5.0
NORTH CENTRAL	1.5	9.5	8.0	6.345	1.652	6.5
NORTH GRESHAM	0.5	10.5	10.0	5.382	2.789	6.0
NORTHEAST	3.0	10.5	7.5	7.171	1.515	7.0
NORTHWEST	4.0	10.5	6.5	7.423	1.516	8.0
POWELL VALLEY	2.0	9.5	7.5	6.178	1.822	6.5
ROCKWOOD	2.5	9.0	6.5	6.877	1.095	7.0
SOUTHWEST	1.0	9.0	8.0	5.984	1.655	6.5
WILKES EAST	0.5	10.0	9.5	6.221	2.096	5.5
SPRINGWATER	0.0	4.5	4.5	1.834	1.080	1.5
PLEASANT VALLEY	0.0	4.5	4.5	1.280	0.982	1.0

MODEL 2 PROPOSED CONDITIONS (DISTANCE, TRL & OS WT@0.5)

	MIN	MAX	RANGE	MEAN	STD	MEDIAN
GRESHAM PRE-0506 BNDS	1.5	12.0	10.5	7.740	1.821	8.0
with SW & PV	0.5	12.0	11.5	7.433	2.093	8.0
ASERT	6.0	12.0	6.0	9.646	1.428	10.0
CENTENNIAL	4.0	12.0	8.0	7.819	1.724	7.5
CITY CENTRAL	6.0	11.5	5.5	9.599	1.033	9.5
GRESHAM BUTTE	2.0	11.0	9.0	6.197	2.014	6.0
HOLLYBROOK	7.5	12.0	4.5	9.786	0.793	9.5
KELLY CREEK	4.5	10.0	5.5	7.736	1.092	8.0
MT HOOD	5.0	10.5	5.5	7.581	1.315	7.5
NORTH CENTRAL	1.5	9.5	8.0	6.618	1.626	7.0
NORTH GRESHAM	1.5	10.5	9.0	6.324	2.330	7.0
NORTHEAST	3.5	11.0	7.5	7.839	1.438	7.5
NORTHWEST	4.0	11.0	7.0	8.324	1.419	8.5
POWELL VALLEY	3.5	10.5	7.0	8.117	1.213	8.5
ROCKWOOD	4.0	11.0	7.0	8.120	1.069	8.5
SOUTHWEST	2.5	12.0	9.5	8.464	1.282	8.5
WILKES EAST	4.5	11.5	7.0	7.748	1.888	8.0
SPRINGWATER	0.5	7.5	7.0	4.123	1.640	4.0
PLEASANT VALLEY	1.0	8.0	7.0	3.691	1.626	3.0

MODEL 3 (MODEL 2 + PARK QUALITY FOR DNP & DCP)

	MIN	MAX	RANGE	MEAN	STD	MEDIAN
GRESHAM PRE-0506 BNDS	0.0	12.0	12.0	6.460	2.645	6.5
with SW & PV	0.0	12.0	12.0	6.095	2.854	6.5
ASERT	6.5	12.0	5.5	9.789	1.168	10.0
CENTENNIAL	0.5	8.0	7.5	4.561	1.753	4.5
CITY CENTRAL	6.5	11.0	4.5	8.945	1.093	9.5
GRESHAM BUTTE	0.0	11.0	11.0	5.910	3.256	6.5
HOLLYBROOK	6.0	11.5	5.5	9.476	0.959	9.5
KELLY CREEK	0.5	9.0	8.5	2.926	1.576	2.5
MT HOOD	2.0	10.0	8.0	5.990	2.066	6.0
NORTH CENTRAL	1.5	11.0	9.5	7.298	1.686	7.5
NORTH GRESHAM	0.5	9.5	9.0	5.082	2.558	6.0
NORTHEAST	3.0	10.5	7.5	8.105	1.312	8.0
NORTHWEST	4.0	11.5	7.5	8.574	1.683	9.0
POWELL VALLEY	2.0	11.0	9.0	7.392	2.460	8.5
ROCKWOOD	2.5	10.0	7.5	7.000	1.294	7.0
SOUTHWEST	1.0	10.0	9.0	5.946	1.757	6.5
WILKES EAST	0.5	10.0	9.5	6.142	2.021	5.5
SPRINGWATER	0.0	5.5	5.5	1.918	1.272	1.5
PLEASANT VALLEY	0.0	4.5	4.5	1.280	0.982	1.0

MODEL 4 (MODEL 3 + OUT PARKS @0.5 WT AND SCHOOLS @0.25 WT)

	MIN	MAX	RANGE	MEAN	STD	MEDIAN
GRESHAM PRE-0506 BNDS	0.00	13.00	13.00	7.234	2.747	7.50
with SW & PV	0.00	13.00	13.00	6.850	2.988	7.25
ASERT	7.25	13.00	5.75	10.635	1.162	10.75
CENTENNIAL	1.00	10.50	9.50	5.804	1.658	6.00
CITY CENTRAL	7.00	12.00	5.00	9.803	1.131	10.25
GRESHAM BUTTE	0.00	12.00	12.00	6.191	3.476	7.00
HOLLYBROOK	6.25	12.50	6.25	10.352	1.029	10.50
KELLY CREEK	0.75	10.00	9.25	3.605	1.693	3.50
MT HOOD	2.25	11.00	8.75	6.753	2.140	6.50
NORTH CENTRAL	3.25	12.00	8.75	8.259	1.544	8.25
NORTH GRESHAM	0.50	10.00	9.50	5.681	2.703	6.50
NORTHEAST	3.50	12.00	8.50	9.427	1.515	9.50
NORTHWEST	4.00	12.50	8.50	9.025	1.864	9.50
POWELL VALLEY	2.25	12.00	9.75	8.070	2.501	9.25
ROCKWOOD	2.75	12.00	9.25	7.998	1.343	8.00
SOUTHWEST	1.00	10.75	9.75	6.458	1.970	7.00
WILKES EAST	1.00	11.00	10.00	7.162	2.067	7.25
SPRINGWATER	0.00	6.00	6.00	2.020	1.294	1.75
PLEASANT VALLEY	0.50	5.50	5.00	1.883	1.064	1.50