Appendix 4 Economic Opportunities Analysis – Industrial Lands

PART I: NATIONAL, STATE & LOCAL TRENDS; SITE REQUIREMENTS FOR INDUSTRIAL USES

INTRODUCTION

This report was done as part of the City's update of its economic development information for industrial and commercial lands found in its comprehensive plan and in order to comply with Statewide Planning Goal 9, Economic Development. Goal 9 stresses the need to" provide adequate opportunities throughout the state for a variety of economic activities vital to the health, welfare and prosperity of Oregon's citizens."

Specifically, OAR 660-009-0015 of Goal 9 calls for cities and counties in Oregon to amend their comprehensive plans to include an "Economic Opportunities Analysis" (EOA) that is described in the rule. Essentially, an EOA has four parts:

1. **Economic Trends Report:** Includes a discussion of national, state and local economic trends. Also identifies the major categories of industrial and commercial uses that could reasonably be expected to expand or locate in the community based on the trends.
2. **Site Requirements Analysis:** Identifies the types of sites that are likely to be needed by the industrial and commercial uses that might expand or locate in the community, based on their site requirements.
3. **Vacant Lands Inventory:** An inventory of vacant and significantly underutilized industrial and commercial zoned lands within the community. Its purpose is to identify the available supply of future developable land.
4. **Assessment of Community's Economic Development Potential:** Estimates the types and amounts of industrial and commercial development likely to occur in the community, based on its economic advantages and disadvantages.

This report (Part I) addresses the above economic trends and site requirements of an EOA for industrial lands. Part 2 of the City's industrial lands EOA contains a vacant lands inventory and Part 3 discusses the City's economic development potential. (Note: An EOA for Gresham's commercial lands has also been completed.)

The information contained in this report is primarily from the following sources:

- *Gresham Industrial Employment & Economic Study* (2001) by E.D. Hovee & Co.
- *Industrial Feasibility Report for Oregon Science and Technology Park* (2002) by ECONorthwest

- *Metro 2002 Economic Report* by Metro Data Research Center
- *Mayor's Economic Development Action Plan* (2000) by City of Gresham
- Oregon Office of Economic Analysis (economic review/forecast reports of 3/03 and 9/03)
- *Metro Industrial Land Locational and Siting Criteria Memo* (2003)

NATIONAL TRENDS

The national economy has experienced two contrasting trends or cycles in the last 15 years. During the 1990's, the economy had one of its longest lasting growth periods in history accompanied by record jobs growth, rising incomes and reduced poverty rates. The economy (and stock market) peaked in 2000 and then experienced a recession that lasted until 2002.

Presently, the economy is in a post-recession "jobless" recovery with the unemployment rate somewhat above 6%. This growth rate is well below the norm for an economic recovery. The economy is still shedding jobs at a rate not seen since the 1930s. The economy in recent years has been impacted by a series of shocks - including a string of corporate scandals, war related uncertainty, and very slow growth in Europe and Japan that has depressed capital spending by businesses as well as the sale of exports. Especially hard hit is the manufacturing sector and, in particular, the high technology areas.

Economists believe the likelihood of at least a temporary increase in economic activity is enhanced by the recently enacted tax cuts and the continued liquidity provided by the Federal Reserve in the form of low interest rates. Low interest rates have benefited the residential construction and finance sectors. However, these stimuli are being offset to a certain extent by a series of tax increases and budget cuts being enacted by local governments and by 49 out of 50 state governments. These are intended to address their budget shortfalls and statutory requirements that their budgets be balanced.

During this 15 year period, there have been a number of emerging national trends within the industrial sector. Especially apparent has been a gradual blurring of the traditional distinctions among manufacturing uses, offices, research/development, and services as well as the emergence of knowledge based industries. These knowledge based industries include telecommunications/internet services, biotechnology/biosciences, computer hardware/software design, software publishing/creative services, and engineering. Other industries that have been taking shape in recent years are in the areas of computer forensics, nanotechnology, material sciences, sustainable "green" technologies, and the development of hydrogen fuel cells and other alternative energy sources. Knowledge based industries provide the majority of innovation and new product development, bring new wealth into the community by exporting their goods outside the region, and they stimulate the formation of other firms such as suppliers, professional services and local services.

Other major industrial trends in the U.S. include the following:

- **Flex Space** – Companies are moving away from large manufacturing facilities towards smaller more flexible facilities that have the potential for conversion to offices, research and development facilities, etc.
- **Expedited Commerce** – Advances in technology will lead to more "just in time" inventory for stores and direct shipment to customers, reducing the need for warehousing, but increasing the need for more sophisticated distribution facilities.
- **Warehouses** – Fewer warehouses will likely be needed, but new buildings will be larger, more automated, with more storage volume and fewer employees.
- **Connectivity** – The availability, speed and reliability of internet connections and telecommunications facilities will become increasingly important for office as well as industrial users. In distribution facilities "information will replace inventory" allowing products to be quickly shipped as needed.
- **Quality of Life** – The quality of life offered by a community will become just as important in the locational decisions of companies as the level of taxes and the adequacy of transportation facilities/utilities. Quality of life factors include the quality of educational institutions, community livability, level of services, housing costs and recreation opportunities.
- **Skilled Workforce** – Increasingly, future industries will need a skilled and educated workforce that can quickly adapt to changing technologies. This will put a premium on maintaining a quality school system.
- **Value Added Industries** – As basic manufacturing jobs move offshore with low labor costs, they are being replaced with jobs that produce "value-added" goods or services. Much of the value added comes from supplying new information or developing and applying new technologies. In essence, knowledge has become the most sought after commodity. Knowledge based firms are not just found in the high technology sector, but can be found in other sectors as well - e.g., distribution, metals, engineering services, advertising and professional services. They have the ability to conduct their businesses faster, smarter or be more productive than their competitors.
- **Industry Clusters** – Firms tend to locate in areas where there is already a concentration of firms in the same kind of industry as their own. When they congregate in a single location, firms realize operational savings, share support services and have access to a large pool of skilled workers who are specialized in a particular field.

The future success of the state, regional and local economies will largely depend on how well the above emerging national trends are accommodated.

STATE TRENDS

The state economy mirrored the jobs and income growth that was occurring in the national economy through the 1990's. However, the subsequent recession was much deeper in Oregon and the pace of the recovery has been much slower than in most areas of the country. As was the case during the recession, in September 2003 Oregon's unemployment rate continues to be the highest in the nation. It is currently above 8% and not far from its recession peak. Unlike in previous economic slowdowns, the Portland metro area and other urban centers in the state have been affected as much as rural areas. This is primarily due to the fact that the weakest sectors have been in manufacturing and high technology. However the continuing historically low interest rates have benefited the construction, finance, insurance and real estate sectors.

Oregon Industrial Site Certification Program

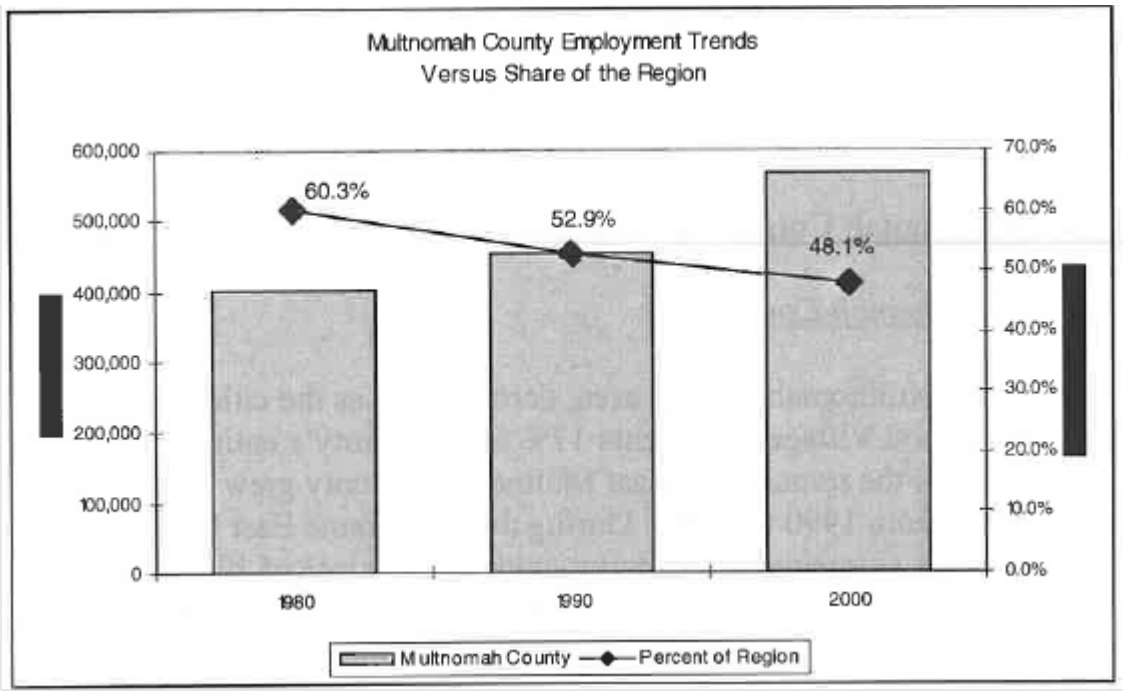
In 2003, the state initiated a program whereby a developable industrial zoned site can be certified by the state to be ready for construction within six months after being selected for development. When a site is certified, it has received a comprehensive review and has available current site information such as pertinent environmental investigations, and the availability and capacity of water, sewer, electrical, natural gas, telecommunications and transportation facilities. A site is certified to be suitable for one or more specific industry profiles or sectors.

Industrial site certification is a voluntary marketing tool that provides the business community added certainty that a site will meet their development objectives in a timely manner. It demonstrates a commitment of state and local governments and property owners to expedite the business siting process. Certification also improves a site's competitiveness in a national and global marketplace that demands increasingly shorter development timelines.

PORTLAND/VANCOUVER REGIONAL TRENDS

As of 2000, nearly 1.2 million workers were employed in the Portland/Vancouver metropolitan area (Portland SMSA). By 2030, this amount is expected to increase to 2.2 million jobs. Approximately 50% of the region's jobs are located within Multnomah County (includes most of the City of Portland). Another 25% are located in Washington County. Clark and Clackamas counties account for the remaining 25%. 18% of the region's jobs were in the retail sector and 82% were non-retail related.

Since 1980, Multnomah County's jobs growth rate has lagged behind the rates for Washington and Clark counties. As a result, Multnomah County's share of regional jobs has declined 12% since 1980; from 60% of the region's jobs in 1980 to 48% in 2000. The primary reason for this growth rate difference has been the amount of major high tech investments in Washington and Clark counties such as those by Intel and Wafer Tech.



Metro forecasts that manufacturing jobs should increase in the region in the coming decades while they are expected to decrease in the nation as a whole. High technology and, in particular, the computer, information processing and software development sectors are expected to lead this trend. There were 60,000 workers employed in high technology in 2001. This workforce is expected to increase to 94,000 by 2030. Most of this growth is anticipated to come from the expansion of existing firms in region.

However, the service sectors will continue to dominate the overall job base. The great majority (over 60%) of the million plus regional jobs to be added by 2030 are expected to be in the commercial retail/service sectors.

Compared to the nation, the Portland/Vancouver area has a high concentration of export oriented industries. The region's export industries job base has been growing at twice the national rate. This is significant because the sale of exports brings new wealth into the region. Although the majority of export jobs are in the distribution sector it has been the slowest growing in recent years. By contrast, the high tech sector has been the fastest growing export sector since 1990. The high tech sector is the only export oriented sector that purchases a relatively high portion of its goods and services locally. Thus, it tends to have a greater impact on the region's economy than the other sectors such as distribution. For every high tech job, another 2+ jobs are supported in local industries (job multiplier= 3).

The region's export industries also have a high worker productivity rate, 5% above the national average. Productivity is measured as the annual value of output per worker. Industries exhibiting high rates of productivity include forest products, high technology, distribution, and transportation equipment manufacturing. Average annual output per worker in the high tech and transportation

sectors ($254,000 and $324,000 respectively) are particularly high - at least double the average productivity rate for all 20 export sectors.

Current national, state and regional forecasts predict long term economic growth despite the current setbacks. Nationally known for its quality of life, urban vitality, creativity and entrepreneurship, the economic future of the Portland/Vancouver region still remains bright.

LOCAL TRENDS (EAST MULTNOMAH COUNTY & GRESHAM)

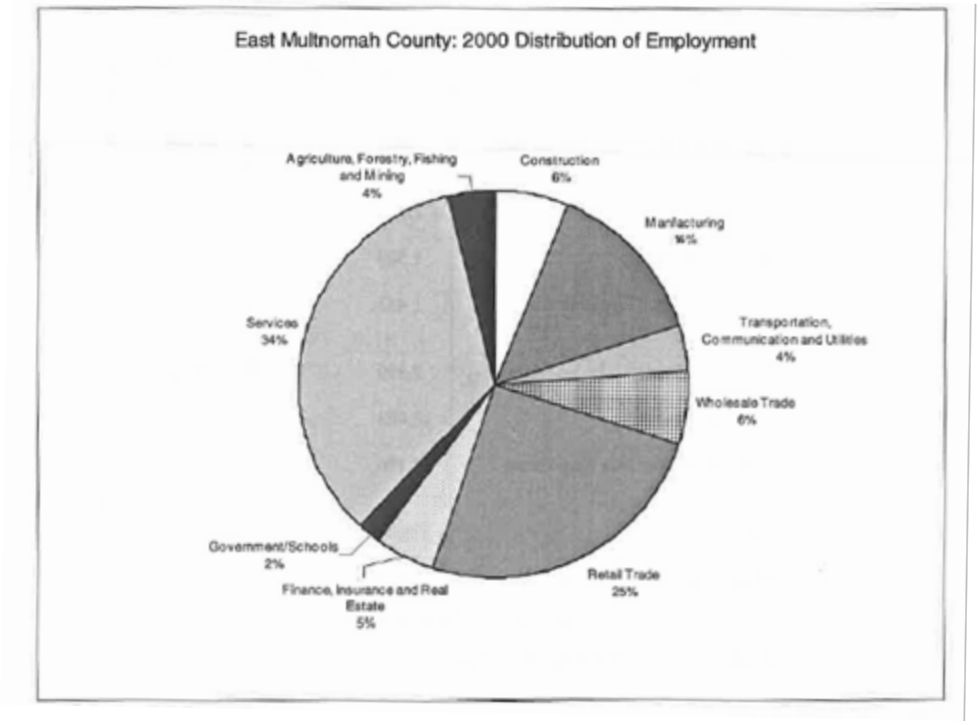
Gresham Trends – East Multnomah County

The population of the East Multnomah County area, defined here as the cities of Gresham, Troutdale, Fairview and Wood Village, represents 17% of the county's entire population. The City of Portland accounts for the remainder. East Multnomah County grew substantially faster than the county as a whole from 1990 to 2000. During this timeframe East Multnomah County's population increased by 41% compared to the countywide growth rate of 13%. This growth difference is primarily due to the fact that there was more vacant developable land in East Multnomah County relative to its land area and population base than was the case in the remainder of the county, which consists of the more developed City of Portland. The majority of the growth occurred in Gresham, which in 2000 accounted for 79% of the East Multnomah County population.

According to the 2000 U.S. Census, the Portland region has a higher share of residents with bachelor's and graduate degrees than the nation as a whole. However East Multnomah County has a lower proportion of its residents with bachelor/graduate degrees than Multnomah County as a whole and lower than for the region.

Residents of the Portland/Vancouver region are more likely to have "white collar" management and professional occupations than "blue collar' occupations like construction, production, and transportation. In contrast, residents of East Multnomah County are less likely to have professional and managerial occupations than Multnomah County residents as a whole as well as the region, and more likely to be engaged in "blue collar" occupations.

East Multnomah has a higher concentration of employment in the retail trade and manufacturing sectors than the county as a whole. On the other hand, its share of jobs in wholesale trade, transportation, communications, utilities, finance, insurance, real estate and services/government is lower than the countywide distributions for these sectors. These differences are primarily due to the differences between Portland (which comprises the balance of the county) and East Multnomah County. A higher share of Portland's jobs base are in these categories rather than in the manufacturing and retail trade sectors.



The largest employers in East Multnomah County are the U.S. Bank Data Processing Center with 1,800 employees, Mt. Hood Community College with 1,600 employees, Boeing of Portland with 1,200 employees, and LSI Logic with 800 employees. All of these employers are located within Gresham.

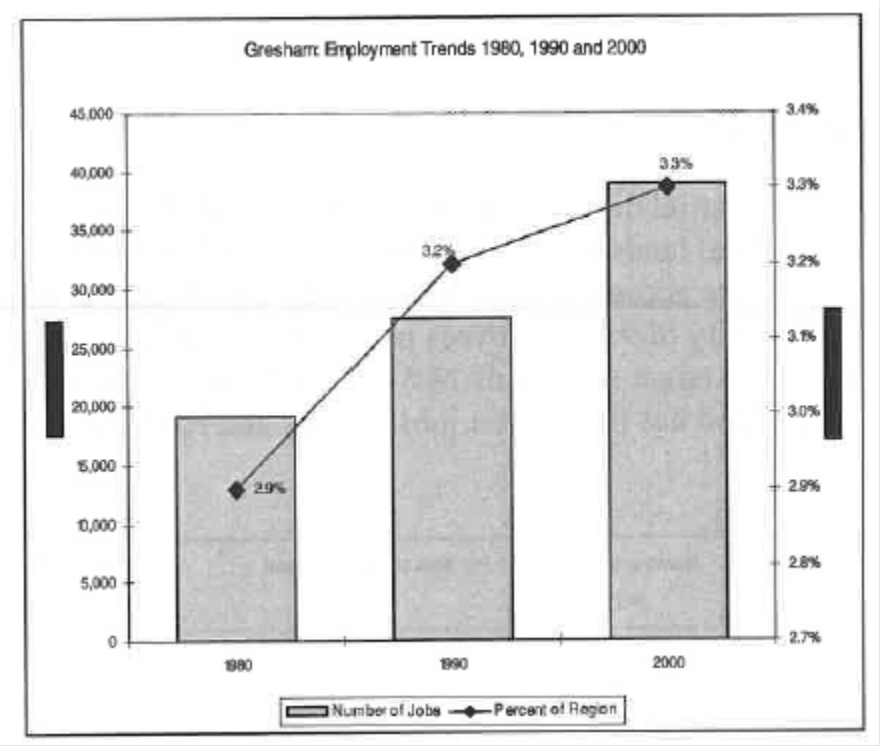
Metro forecasts that Eat Multnomah County will gain over 53,000 jobs in the next 25 years with an average growth rate above the regional average. By 2025 the area's jobs total will be approximately 7% of the region's jobs. Reflecting the national and regional trends, the overwhelming majority of new jobs are anticipated to be in the services and retail sectors. The following table contains Metro's sector by sector jobs forecast for East Multnomah County.

Metro Jobs Forecast for East Multnomah County
Source: Metro – Metrosope, Nov. 2002

Sector Categories	Jobs To Be Added 2000-2025	% of All Jobs Added
All Sectors	53,348	100%
Agriculture, Forestry, fishing and Mining	-889	-1.7%
Construction	2,425	+4.5%
Manufacturing	1,589	+2.9%
Transportation, Communication & Utilities	1,452	+2.7%
Wholesale Trade	2,899	+5.4%
Retail Trade	13,428	+25.2%
Finance, Insurance & Real Estate (FIRE)	2,176	+4.1%
Services	27,694	+51.9%
Government/Public Schools	2,593	+4.9%

Gresham's Jobs Growth

From 1980 to 2000, Gresham added 19,800 jobs that approximately doubled the number of local job opportunities to 38,900 jobs. While a portion of the job growth was due to annexing existing employers in what is now west Gresham, the City also experienced significant industrial development from firms such as LSI Logic Fujitsu (now Microchip), Boeing, Albertsons and U.S. Bancorp. This job growth translated into Gresham slightly increasing its share of regional jobs, from 2.9% of the region's jobs in 1980 to 3.3% in 2000.



The services sector represents the largest portion, 31%, of Gresham's jobs. Between 1990 and 2000, the service sector grew by over 7,100 jobs, capturing 56% of the job growth during that decade.

Manufacturing and retail have experienced a declining representation of the job base, not due to job losses but rather because of the fast growing services sector. However, the transportation/communications/public utilities (TCPU) sector did experience a declining representation due to lost jobs.

The following is a Metro table showing Gresham's job growth for major sectors from 1990 to 2000.

Gresham Employment Growth (1990-2000) by Sector

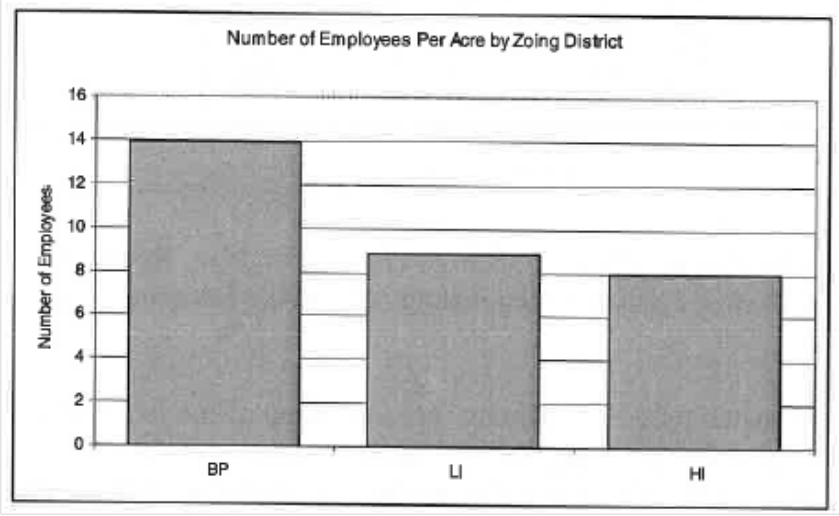
Metro TAZ data: Includes Inside Gresham city limits and surrounding unincorporated areas

Gresham Employment Growth by Sector				Percent Distribution		
Sector	1990	2000	Growth	1990	2000	Change
Agriculture	933.00	987	54	3.4%	2.5%	0.4%
Mining	40.00	193	153	0.1%	0.5%	1.2%
Construction	1,216.00	2,477	1,261	4.5%	6.2%	9.9%
Manufacturing	7,262.00	7,422	160	26.7%	18.6%	1.3%
TCPU	1,126.00	731	-395	4.1%	1.8%	-3.1%
Wholesale	1,053.00	1,540	487	3.9%	3.9%	3.8%
Retail	8,596.00	10,500	1,904	31.6%	26.3%	15.0%
FIRE	1,678.00	3,640	1,962	6.2%	9.1%	15.4%
Services	5,280.00	12,424	7,144	19.4%	31.1%	56.1%
Government	4,094.00	6,380	2,286	15.1%	1.6%	18.0%
Total	27,184.00	39,913	12,729	100.0%	100.0%	100.0%

Gresham employers are predominantly small businesses, with over 80% of Gresham firms having 19 or fewer employees. However, these small firms employ just 25% of all Gresham workers. Conversely, 31 employers (16% of all businesses), each having 151 or more employees, employ 38% of Gresham's workers.

Gresham's Industrial Lands Jobs

Gresham has three industrial districts: HI, Heavy Industrial; LI, Light Industrial; and BP, Business Park. Industrial lands employment accounts for 11,000+ jobs or 28% of all jobs in Gresham. These jobs are accommodated on less than 1,200 acres of developed industrial zoned land for an overall density of 9.4 employees per acre. This existing average density is less than Metro's overall average target density of 14.5 jobs per acre for industrial/employment lands. BP, Business Park zoned land has the highest jobs density and HI, Heavy Industrial has the least density.



The LI and HI districts each account for 36% of industrial jobs. The BP district accounts for the remaining 28% of industrial jobs.

In regard to the manufacturing sector: 73% of the jobs in the HI district are in manufacturing; 51% of jobs in the LI district are in manufacturing; and BP has 7% of its jobs in that sector. Also, 47% of industrial lands workers are employed in manufacturing. The following table lists industrial lands employment by job sectors and plan (zoning) districts.

Type of Employment by Zone

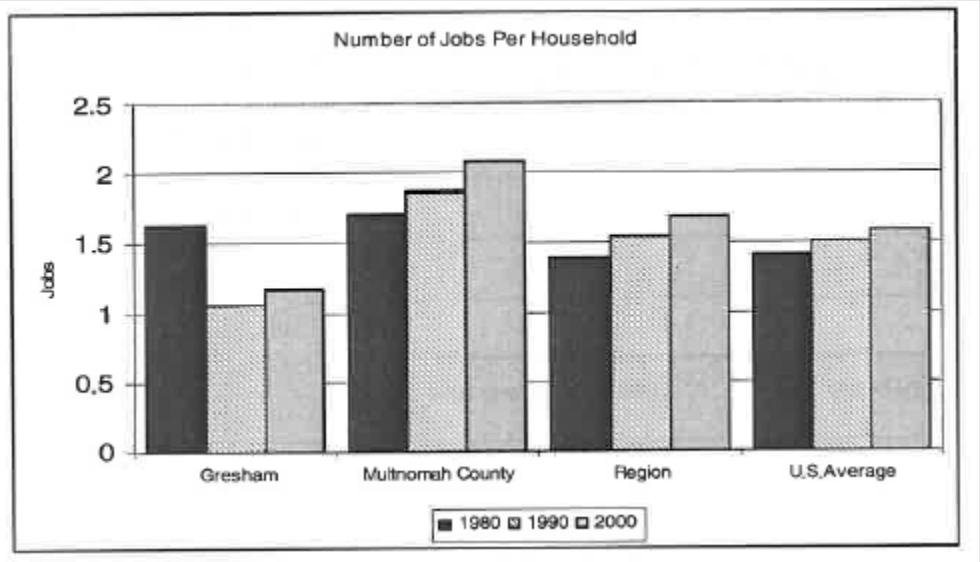
Sector	BP	LI	HI
Agriculture	0.0%	0.0%	0.3%
Mining	0.0%	2.3%	2.5%
Construction	0.3%	4.8%	3.3%
Manufacturing	7.1%	51.3%	72.7%
TCPU	0.0%	3.7%	1.2%
Wholesale	3.9%	5.5%	2.8%
Retail	7.6%	3.9%	1.0%
FIRE	54.7%	0.0%	0.0%
Services	23.7%	26.5%	4.5%
Government	2.8%	2.0%	11.7%
Total	100.0%	100.0%	100.0%
Total Jobs	3,033	4,013	3,969
Percent of All Jobs	7.8%	10.3%	10.2%

Gresham's Negative Trends

During the past 15 years, Gresham has experienced a number of negative trends that underscores the need for more "family wage" jobs and economic development. This is essential for the City to attain a balance of employment, population, housing and services that is necessary for a complete and fiscally sustainable community.

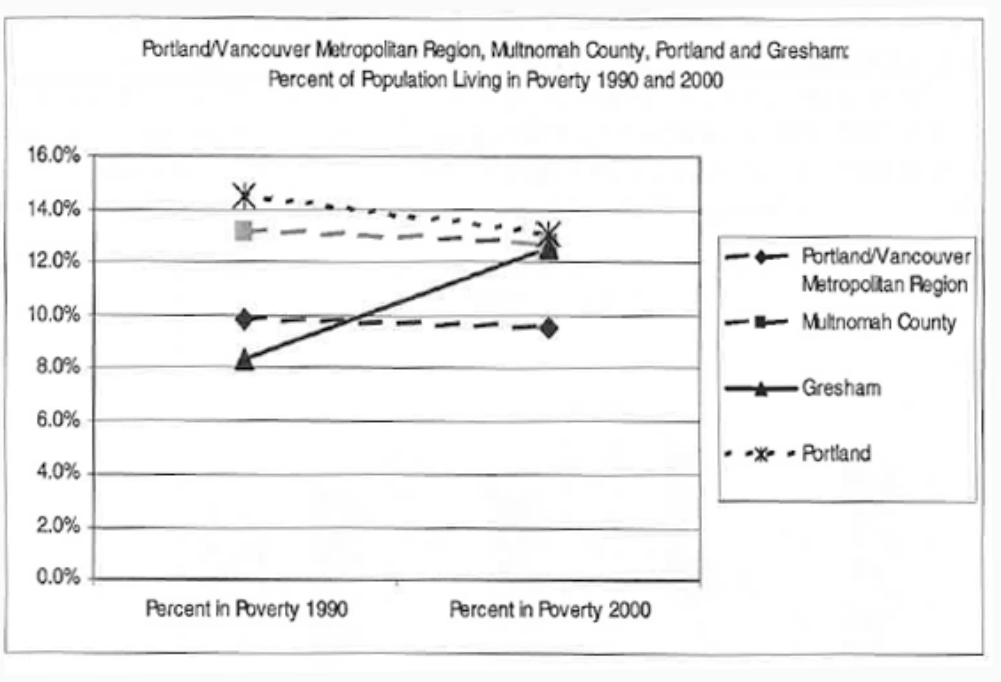
The negative trends are the following:

- **Low Number of Jobs Relative to Housing and Population** – The jobs to housing ratio measures the number of jobs in a jurisdiction relative to its number of housing units. While the jobs/housing ratios of the nation, region and the county as a whole increased from 1980 to 2000, Gresham's ratio declined. It is currently about one-half of the county average. Most of the decrease occurred in the 1980 to 1990 timeframe when Gresham annexed a large unincorporated county area to its west that included the Rockwood area. This area was primarily developed with single-family neighborhoods and apartments. As a result, these annexations in the 1980s added a substantial number of housing units to the City without a commensurate number of jobs. The chart below shows the jobs/housing ratios.

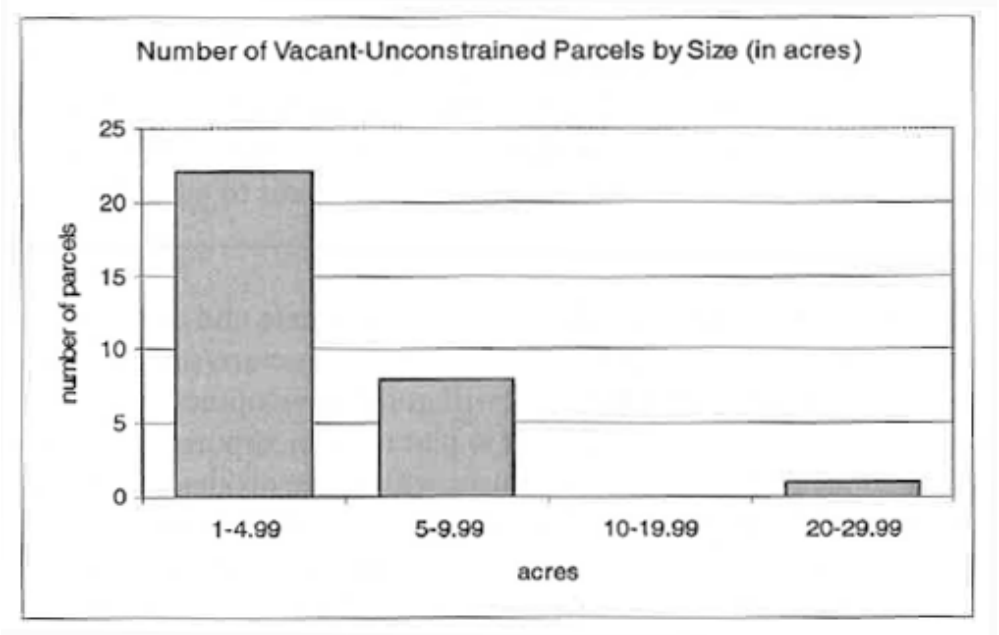


Also in 2001, Metro compared the number of jobs to the populations of the regional centers throughout the region and their vicinities within 4 miles. It found that the jobs to population ratio for the Gresham regional center and vicinity was one-half (.34) of the average ratio (.69) for the other centers/vicinities.

- **Low Wages** – Gresham jobs pay significantly lower wages (22% less) than the county average. This is thought to be due to the City's job base having a preponderance of jobs in the retail/service sectors. These sectors are represented by businesses such as restaurants, grocery stores and retail outlets. Jobs in these sectors usually pay less than in other sectors such as manufacturing and construction.
- **Longer Commutes** – Gresham residents have the second highest commute distance among the area's regional centers. Almost 40% of the City's workers travel more than 10 miles to work. This is due to the relatively low number of jobs as well as occupational mismatches.
- **Increasing Poverty** – According to the U.S. Census, there has been a 56% increase in Gresham's poor population since 1990. In contrast, the poor population of Portland, Multnomah County and the region as a whole decreased during this time. In 1990, 8% of Gresham's population lived in poverty while in 2000 12.5% lived in poverty. Most of Gresham's poverty is concentrated in the Rockwood area. The graph below shows the poverty trends since 1990 for Gresham, Portland, Multnomah County and the region.

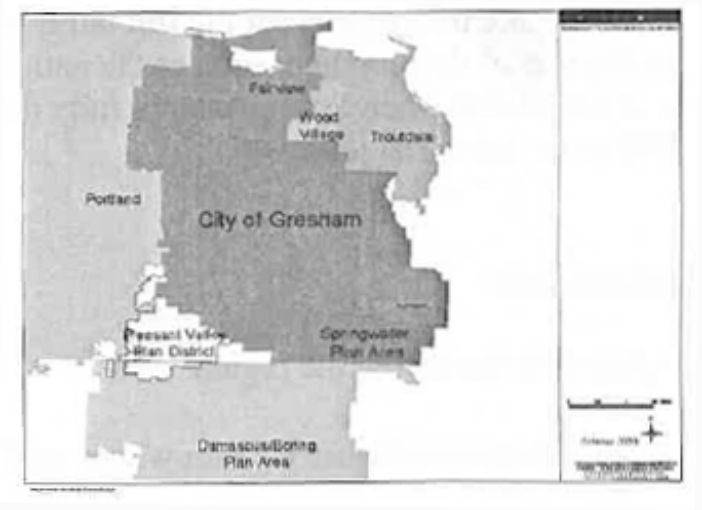


- **Lack of Buildable Industrial Land** – Only 117 acres, or 5% of the City's industrial zoned land, is vacant and unconstrained ("ready to build"). Most of the parcels within this category are relatively small, less than 10 acres in size. Constraints that affect constrained vacant industrial lands are related to inadequate transportation facilities, the presence of wetlands and other environmental limitations, and ownership. Below is a graph that shows the parcel size distribution of the vacant unconstrained industrial land.



- **Unbalanced Tax Base** – Compared to other jurisdictions, Gresham has a smaller industrial and commercial valuation component of its tax base relative to its residential portion. This is significant because residential development is a net consumer of City services while industrial and commercial developments are net revenue generators. In addition, although Gresham is the fourth largest city in the state, it has the 14th lowest rate of the state's 15 largest cities.

Springwater: Gresham's Major Industrial Lands Initiative



The Springwater community planning project represents the answer to Gresham's deficiency of developable industrial lands. It presents an opportunity to build a new community addition to Gresham that that integrates family wage jobs and educational resources in a new vital community center. The employment strategy for Springwater is to attract high value manufacturing and technology employment.

In December 2002, Metro approved an 18,700 acre expansion of the region's Urban Growth Boundary (UGB) that included the 1,575 acre Springwater area abutting southeast Gresham. The UGB separates urban from rural land. The periodic expansion of the UGB (every 5-10 yrs.) allows the region to accommodate growth expected in the next 20 years. After an area is brought into the UGB and before it is annexed to a city, planning must occur to guide the transition from rural to urban uses.

The purpose of the Springwater Community Plan project is to create and adopt land use, transportation, natural resource plans and policies, public infrastructure/services plans and projects, and economic development strategies that will guide development of the area. Springwater is presently a rural residential area that is part of unincorporated Multnomah County. It will be planned for primarily industrial uses with some residential and commercial uses. Gresham has the capability to provide all of the needed urban services to the area. The project will be led by the City of Gresham in partnership with local property owners, tenants, local city and county citizens, interested parties, stakeholders (e.g., Gresham-Barlow School District and Johnson Creek Watershed Cow1cil), Multnomah and Clackamas Counties, and Metro.

The Springwater planning project was initiated in September 2003 and is expected to last approximately 18 months. It will include the adoption of amendments to Gresham's comprehensive plan (land use policies, zoning, development code, etc.), and provision for urban services (water, wastewater, stormwater, parks, transportation, fire and police). Capital improvement plans will outline what public facilities projects, including roadway construction, will happen and when.

Once the Springwater Community Plan is completed and appropriate policies ordinances and code amendments are adopted, the annexation and development of the area can begin. This is anticipated to occur in mid-2005. It will likely take many years for the full build-out of Springwater. Many factors could impact the rate of development such as the national and regional economic climate. However, it is hoped that when Springwater is fully developed that it could provide the City with at least 10,000 more industrial jobs.

Gresham's Locational Advantages/Disadvantages

Gresham has the following advantages relative to the rest of the region:

- **Business Friendliness** – Gresham has a Business/Industry Team whose staff have developed services to quickly assist businesses that are considering to locate within Gresham as well as existing businesses that want to expand. The Rapid Response Team consists of interdepartmental staff that help to streamline the permitting process for major business developments. Other City outreach programs to area industries and economic development partners include the Manufacturers Assistance Program (MAP), the East County Economic Alliance and the Oregon Science and Technology Park (OSTP) initiative.
- **Easy Freeway Access** – The 1-84 freeway goes through north Gresham and there are three interchanges that serve the City. Gresham also has a good east-west transportation network with convenient access into downtown Portland. It includes the MAX light rail system.
- **Proximity to Airports** – The Portland International Airport (PDX) is less than 15 miles away. Also, nearby Troutdale also has a small airport that serves commuter airplanes.
- **Proximity to Educational Institutions** – Mt. Hood Community College and its University Center (4 yr. degree program) is located in Gresham as is the high tech training center, the Center for Advanced Learning (CAL).
- **Proximity to Recreation Amenities** – Gresham is near the Columbia Gorge National Scenic Area, state and Metro parks, and Mt. Hood. These amenities offer opportunities for camping, hiking, fishing and skiing.
- **Industrial Foundation** – Gresham has already attracted a number of primary industrial sectors that export their goods and services outside the region. These include industries in the areas of aeronautics (Boeing of Portland), food and beverage (e.g., Boyd's Coffee, WinCo Foods, Teeny Foods), and high tech (e.g., LSI and Microchip).

Gresham also has the following disadvantages relative to the region:

- **Distance from the Region's Major High Tech Cluster** – Washington County, to the west of Portland, contains the largest cluster of high tech firms (such as Intel) in the region. A location within Gresham would not share in the economies of agglomeration that firms in the Washington County cluster enjoy.
- **Lower Educational Attainment of Workforce** – The U.S. Census indicates that the percentage of Gresham and East Multnomah County residents in general that have bachelor's or college graduate degrees is less than the average percentage for the region. This could change over time, but in the short term (1-5 yrs.) any change is likely to result from in-migration rather than from a higher educational attainment by the current workforce.
- **Distance from Downtown Portland** – Gresham nor the other nearby cities have downtowns with the major activities and amenities as downtown Portland. However, neither do the west side cities of Beaverton and Hillsboro and this has not proven to be an economic development disincentive for them.
- **Inadequate Transportation Funding** – Major improvements are needed to the City's transportation system in order to accommodate future growth, especially to certain north-south linkages to the 1-84 freeway. These include improvements near N.E. 181st Avenue in the City's northerly industrial area, and the need for an adequate linkage between the freeway and Highway 26 in the future industrial area of Springwater. Funding has yet to be secured for these projects.

Industries Anticipated to Expand/Locate in Gresham

Presently, Gresham's industrial lands contain a mix of industries. These include firms specializing in the areas of product distribution as well as companies that manufacture and/or process a diverse range of items such as aircraft frame assemblies, food and beverages, semi- conductors and other high tech products, windows/wall assemblies, car wash systems, hydraulics equipment, architectural interiors, tubing, and packaging. These companies are large, medium and small in scale and occupy a range of parcel sizes from 2 to 100 acres.

A good example of Gresham's industrial diversity is Southshore Corporate Park. It was recently developed in Gresham and Portland along the 1-84 freeway/Columbia River south shore industrial corridor. It is a master planned industrial business park with a variety of manufacturing and distribution uses. There are 21 lots with lot areas varying between 5 and 17 acres. The small and medium size companies that are in this park may represent the future of industrial development in Oregon, especially if the growth of "home grown" companies replace the trend of larger companies relocating from other states. Southshore Corporate Park is home to high tech firms, distribution centers, processing centers, and several manufacturers and support vendors.

Based on the above described locational advantages, it is anticipated that Gresham will continue to attract a diverse range of companies, especially to the remaining buildable industrial lands in its established industrial areas in the northerly part of the City.

In addition to accommodating this trend, Gresham, along with Mt. Hood Community College, key area industries and the neighboring cities of Fairview, Troutdale and Wood Village is presently engaged in an effort to prepare East Multnomah County for the emerging "knowledge based" industries of the 21st century. This effort is referred to as the Oregon Science and Technology Park (OSTP) initiative. It seeks to attract these emerging industries by leveraging off the assets and industry clusters that already exist in the area. The goal is to build sustainable community wealth through science, technology and education.

Key OSTP education initiatives include:

- Mt. Hood Community College (MHCC) education and training programs organized to serve the specific needs of business and industry, including the allied health and biotech programs.
- The University Center at MHCC. The Center will also provide kinks to research activities and encourage collaborative research.
- The Center for Advanced Learning (CAL), in Gresham's Civic Neighborhood, a regional resource that will provide advanced programs for several high schools including advanced training in health care, information technology, pre-engineering/advanced manufacturing.

OSTP will be focusing on the following areas for science and technology developments:

- The LSI and Microchip high tech sites in Gresham
- The future Springwater industrial community
- The redevelopment of the Troutdale Airport/Alcoa site and Eastern Columbia Corridor

Because of the LSI Logic and Microchip campuses in Gresham, the area is well positioned for the future expansion of high tech when the industry recovers from its current slowdown. The OSTP strategy entails continuing to work with existing companies to determine their needs for expansion, assess which of their suppliers can be attracted to locate near existing firms, and support the diversification within the high tech sector.

OSTP intends to especially target the following industries for Springwater and the other areas listed above:

- **High-Technology:** Support niche areas in the growth of existing East Metro semiconductor companies and suppliers to those companies and related companies.
- **Bioscience:** Recruit biomanufacturers to the region to meet future need for product manufacturing for biotechnology firms finishing Phase III clinical trials.
- **Sustainable/Green-Technologies:** Focus on developing a research center in clean energy, recruit manufacturers of renewable power systems, develop demonstration projects and manufacturing in application of fuel cells to light rail and trolley systems and home heating and cooling systems.

- **Computer Forensics/Security:** Take advantage of federal government spending in homeland security and in particular efforts to make computer and internet systems less susceptible to cyber-terrorism.
- **Nanotechnology:** Nanotechnology is a research field developing materials functioning on a very small scale in the length of scale of approximately 1-100 nanometer range (a nanometer is one billionth of a meter and an atom measures about 1/3 of a nanometer). Define a niche for research, development, application, and incubation of new firms and products based on regional strengths such as semiconductors, telecommunications and renewable energy or waste treatment fields.
- **Agriculture-Related Industries:** Determine if nutriceuticals/natural medicines and nursery-related biotechnology are fields with potential for R&D, incubation, and expansion. The existing nursery industry and other specialty farms in the rural East Multnomah County area provide a unique opportunity to link the biosciences and agriculture in this part of the region.

Gresham and its East Multnomah County economic development partners intend to attract and establish the above industries to Springwater and the other target areas in a way that advances the quality of urban planning, green building, eco-industrial design and sustainable infrastructure.

INDUSTRIAL SITE REQUIREMENTS

The following industrial sectors have specific site characteristics based on the requirements of the businesses that locate in building types for warehouse and distribution, general industrial and tech-flex. These industry types were identified in the Metro Regional Economic and Population Forecast and the Employment Urban Growth Report for 2000-2022.

In order to identify the characteristics that allow land to be suitable for warehouse/distribution, general industrial, and tech-flex, Metro conducted a number of interviews with industry professionals that specialize in land acquisition, site development and facility management for industrial development. The following information is from these interviews.

Warehouse and Distribution: Access is key to the warehouse and distribution industry. Warehouse and distribution need freeway access via an arterial or collector street system. Since transportation of goods is the primary purpose of these businesses ease of access and the ability to move goods on-site is of primary concern. Businesses relying on freight movement choose I-5, I-84 and I-205 locations to maximize the movement of goods. The value or premium that a business places on access is somewhat dependent upon whether the movement of goods is in bulk or results from primary manufacturing. Bulk suppliers and users tend to locate close to port facilities that utilize rail, barge and container operators. Local distributors place a higher premium on sites that are centrally located and, as a result, are willing to trade off congestion for a location that can reach a number of places in the region. Manufacturers that manufacture precision products that are small in nature may require access to the airport for shipping rather than utilizing ship or truck modes. In terms of airfreight shipments in the

region the top five companies are Tektronix, Hewlett Packard, Intel, Nike and Sun Micro Systems. The majority of these companies are located in the western and southern portions of the region.

The region is served by several transportation corridors that provide relative advantages for the movement of goods. The I-5 freeway is key for inter- and intra-state travel and the movement of containers to and from the Port of Portland freight terminals. The I-84 freeway provides access to the eastern portion of the region and to airport facilities. Highway 26 provides access to the western portion of the region but is not a desirable location for distribution businesses unless they are servicing the industries that are already located in this corridor. Time is a greater determinant than actual distance for these types of businesses. Congestion and intervening non- compatible land uses impede the ability of these businesses to distribute products. Ideally, access to a freeway interchange would not occur through a residential or commercial area. Some firms stagger trips to avoid peak travel times when congestion is heaviest to avoid some of the negative consequences of congestion.

Typically warehouse and distribution buildings are single story, concrete tilt up structures that are located on relatively flat sites accessed by trucks. Buildings can range from 100,000 to 200,000 square feet and typically have lot coverage of 35%. The sites need to be large enough to accommodate staging, truck turning, backing and loading. Over the past ten years, the industry has changed to include larger vehicles (width and length) and a trend in building design that provides greater clearstory heights for staging material. This industry has some of the lowest job densities that are somewhat offset by companies that run multiple shifts. Some of these sites handle container traffic that requires large outdoor storage areas. Sites suitable for warehouse and distribution use should contain the following site characteristics:

- Freeway access within 3-5 miles of an interchange via an arterial street, with no intervening conflicting uses such as residential, schools and high traffic generating commercial uses. Development of new warehouse/distribution locations need to provide enough area for a number of uses not just one single site.
- Slopes of less than 5%. Larger buildings are more difficult to accommodate on greater slopes
- Major highway routes are key: I-5, I-84, and I-205
- Highway 26 on the west side is not desirable due to congestion unless a firm serves the local market such as the Washington County hi-tech clusters

General Industrial: General industrial building types can accommodate light to heavy manufacturing activities and encompass a wide range of activities that include research, development, manufacturing and fabrication. Buildings can be as large as 400,000 square feet in size. The buildings range from custom built projects for a single user to more general spaces that are built on speculation. Heavy manufacturing activities that require bulk materials locate near rail and port facilities to take advantage of cost savings from these types of transportation facilities. General industrial sites need the following site characteristics:

- Freeway access within 3 miles of an interchange via an arterial street

- Net parcel sizes: varies between 1-5 acres and 10-20 acres, depending upon the shape and constraints
- Location near other firms to provide access to a labor pool
- Stable soils, flat sites to reduce required site work
- Manufacturing sites greater than 20 acres, must have slopes less than 2% to 3%. The larger the building the less likely a project can accommodate slopes greater than 3%
- Manufacturing sites between 1-5 acres should have slopes no more than 5% to 10%

Tech-Flex: As the name implies, these buildings are constructed to be flexible in nature and be easily configured to meet different space requirements. They can accommodate light assembly, product or material storage, research activities and may contain a limited office use component. Buildings used for high-technology uses require stable soils to reduce vibration and specialized public facilities like specialty gases, triple redundant power, high volume water and fire/emergency response units. High-tech firms are knowledge based industries that tend to rely on agglomeration or clustering with like firms as a means to readily access intellectual talent, supplies and supportive technology.

These buildings may not be constructed to meet the specialized needs of a single firm. They fulfill a space need for smaller firms, start-ups and growing companies. Generally, the site requirements are not as restrictive as the requirements of warehouse and distribution or general industrial sites. A site that is developed for tech-flex use can tolerate greater variations in slope by utilizing multiple buildings to accommodate topographic constraints or rolling topography. Tech-flex users have the following site needs:

- Congestion is not as great an issue for tech-flex when compared to warehouse and distribution, although shipments must reach the airport on time during the PM peak hours in order to meet the schedules of nationwide carriers
- Net parcel size greater than 10 acres
- Ideal parcel size depends upon the type of use, can vary from 10 to 20 acres
- Availability of specialized utilities such as specialty gases, triple redundant power, abundant water, dedicated fire and emergency response services
- Stable soils
- Located within close proximity of existing high tech companies and suppliers
- Must have access to airport, no more than 45 minute mid-day travel time for passenger purposes
- Can tolerate some rolling topography within a site sloped no more than 5%, as slopes approach 5% meeting ADA requirements will be difficult

Accessibility

Accessibility is a key component for most businesses because it allows access to customers, suppliers and other modes of transportation to move goods. Approximately 60% of all commodities shipped to, from and within our region use the regional road system. Delay has direct impacts on regional competitiveness. Different types of firms place different values on moving people and goods. An analysis of potential lands for industrial purposes needs to assess the accessibility to key systems within the region. Peak and non-peak travel times for areas under consideration need to be compared as one measure of the suitability of areas for industrial purposes. Metro intends to complete this work in their Alternative Analysis report which will be done as part of their study of future industrial lands to be added to the UGB.

PART II: INVENTORY OF INDUSTRIAL LANDS

EXECUTIVE SUMMARY

This report is an inventory of Gresham's industrial zoned lands. It was done to help satisfy state periodic review requirements, (Statewide Planning Goal 9) as well as to serve as an updateable resource to assist the city in its ongoing economic development efforts. The inventory analyzes the vacant and underutilized (partially developed) properties that are zoned LI, Light Industrial; HI, Heavy Industrial; and BP, Business Park. It also identifies constraints or factors that prevent certain properties from being immediately available for industrial development. These constraints fall within three basic categories - environmental, ownership, and infrastructure related factors. Also, in order to facilitate this analysis, the industrial lands were divided into six areas. An analysis was done for the city as a whole as well as for each area. Both the constraint categories and the six areas are described below in the "Introduction & Citywide Perspective."

The following are the main points brought out by the inventory:

- Out of the 2,200 (approx.) acres of industrial zoned land in the city, 55% or 1,210 acres are developed. This includes fully developed and partially developed (underutilized) properties.
- Only 117 acres or 5% of the 2,200 acres is vacant and unconstrained or "ready to build land." Most of this land is found within Areas 1 and 2. Most of the parcels within this category are less than 10 acres in size, and none are larger than 30 acres.
- There are 858 acres of vacant and constrained industrial zoned land. Of this amount, 30% is constrained because of environmental factors, 60% is constrained because of ownership, and 10% is constrained because of inadequate infrastructure.
- The above 10% of land that is constrained because of infrastructure is found in Areas 1 and 6. It is constrained because of inadequate transportation or roadway improvements. There is no constrained industrial zoned land that is constrained because of inadequate water or wastewater (sanitary sewer) facilities.

INTRODUCTION

The City of Gresham recently conducted an inventory of its industrial zoned lands. This was done as part of the City's update of its comprehensive plan and in order to comply with Statewide Planning Goal 9, Economic Development. Specifically, OAR 660-009-0015(3) of the Goal 9 Economic Opportunities Analysis requirement calls for, *"an inventory of vacant and significantly underutilized industrial and commercial zoned lands within the planning area which are designated for industrial and commercial use.* " This inventory was undertaken to determine the present amount of vacant and underutilized industrial zoned land within Gresham, especially in regard to land that is currently available for industrial development. (Note: The City has also completed a similar inventory of its commercial zoned lands that is part of "Economic Opportunities Analysis-Commercial Lands.") Gresham's industrial zoning districts are Business Park (BP), Light Industrial (LI) and Heavy Industrial (HI). The areas analyzed for this study fall within these districts.

To fully understand the potential for industrial development in Gresham, six areas, established by clusters of existing industrial zoning, were selected for the industrial lands analysis. An industrial zoned area was delineated on the basis of being separated from another industrial area by a large area of non-industrial plan district(s) or by a major transportation corridor such as the I-84 freeway. Although some of the areas contain small pockets of non-industrial zoning, industrial zoned lands comprise the great majority of these areas.

Gresham has also provided a parcel-by-parcel description of the vacant land (constrained/unconstrained) found in each of the six areas. This is attached as Appendix A.

The six delineated areas are as follows:

- **Area 1:** Gresham's largest contiguous area of industrial zoned land, located in the northwest section of Gresham, is bordered on the north by N.E. Marine Drive and on the south by the I-84 freeway. Area 1 has a relatively even distribution of the three industrial zones BP, LI and HI. Area 1 existing uses include the South Shore Corporate Business Park (under development), the U.S. Bank corporate office complex, Boyd's Coffee, Boeing, and the City of Gresham wastewater treatment plant.
- **Area 2:** Located directly below Area 1, Area 2 is bordered on the north by the I-84 freeway and on the south by N.E. Halsey Street. Area 2 has most of its industrial zoning in the LI and HI categories, with a small amount of BP zoning. Most of Area 2 is occupied by the Banfield Corporate Park, which is an older industrial park that includes businesses such as Albertson's, John Deere, Multifoods and many others.
- **Area 3:** Located in the north-central section of Gresham it is bordered on the north by N.E. Glisan Street and on the south by SE Stark Street. Most of Area 3 is zoned LI and BP. It is comprised of Gresham's two semiconductor-manufacturing firms - LSI Logic and Microchip Technology.

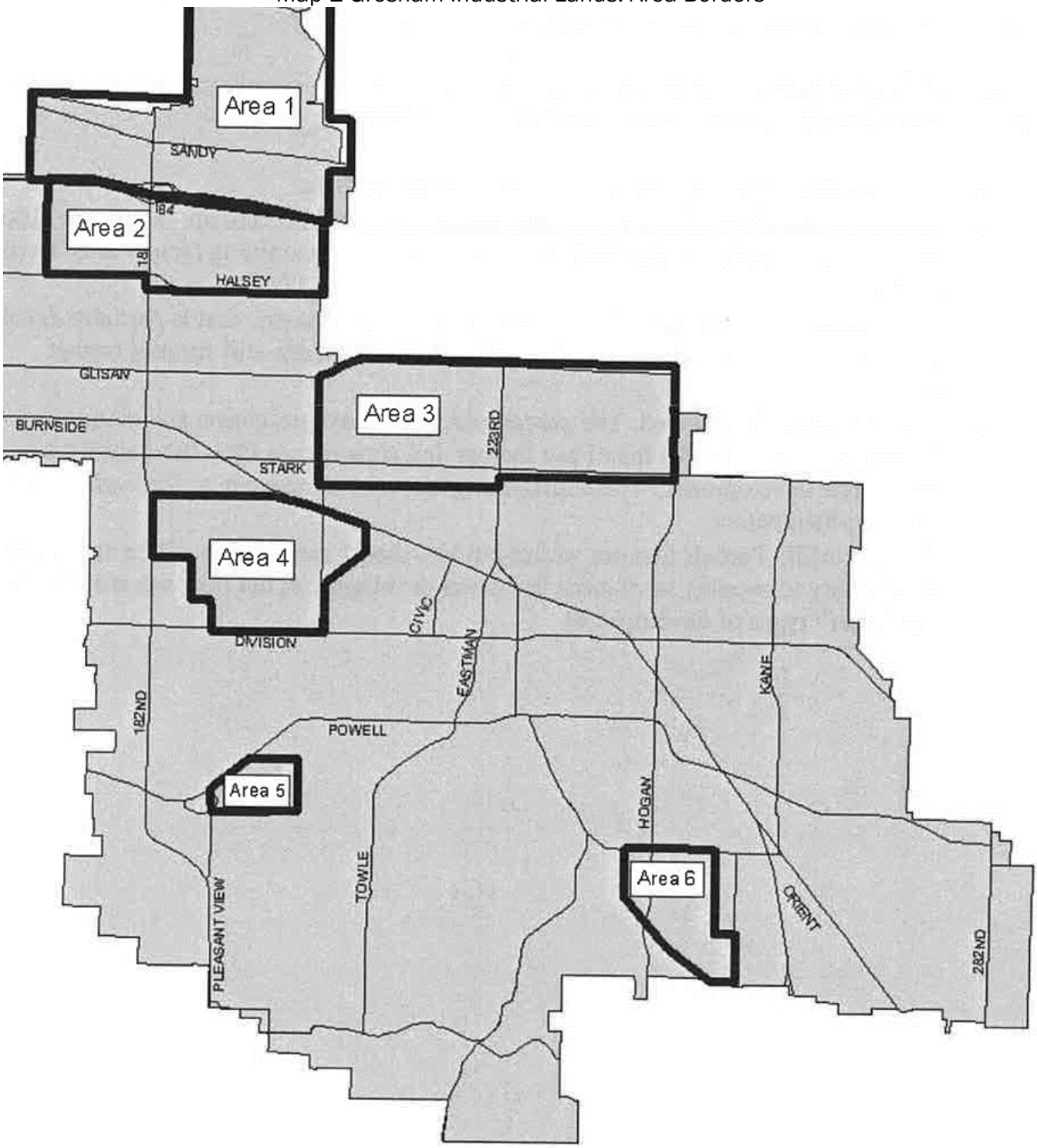
- **Area 4:** Area 4 is the location of a long established sand/gravel quarry operation. It also includes the Multnomah County road maintenance shop and related offices ("John B. Yeon Facility"). Located in the west-central section of Gresham (near SE 190th Ave.), it is bordered on the south by SE Division St., and on the north by SE Yamhill St. Area 4 is zoned mostly for HI uses, with some BP zoning and very little LI.
- **Area 5:** Area 5 is located in the south-central section of Gresham. It is zoned LI and is bordered on the north and west sides by SE Powell Blvd and the Springwater Corridor Trail/Johnson Creek along the south. Area 5 is largely underutilized. Most of Area 5 is owned by PGE, which operates a storage yard on part of the site.
- **Area 6:** Located in the southeast section of Gresham, Area 6 is located along SE Hogan Rd., directly south of SE Palmquist Rd. It is bordered along the south by the Springwater Corridor Trail/Johnson Creek and the city limits. Area 6 is zoned mostly for HI use. There is some LI zoning and no BP zoning in area 6. Existing uses in Area 6 include a clay quarry/brick manufacturing use, a school bus storage facility and the City's Operations Center (offices and storage for utility related functions).

The above six industrial areas are shown below on Map 1.

Industrial properties were further categorized for "readiness for development". The category designations regarding development potential are as follows:

- **Vacant Unconstrained:** The parcels are ready to build on.
- **Vacant Constrained:** The parcels are currently vacant but there are factors constraining or limiting the ability for immediate development. Constraining factors are described below.
- **Underutilized Unconstrained:** An underutilized parcel is one that is partially developed. There is at least one acre of remaining vacant land that can still support further development.
- **Underutilized Constrained:** The parcels meet the above definition and could support further development, but they have factors that constrain or limit their ability for immediate development. The constraining factors are the same as for vacant lands and are described below.
- **Vacant/Infill:** Parcels that are vacant but less than 1 acre in size. Their small size limits their ability to support substantial industrial development, but they can still be considered for "other" types of development.

Map 1 Gresham Industrial Lands: Area Borders



The Goal 9 Economic Opportunities Analysis section states that the inventory must include information regarding constraints that preclude immediate development of the inventoried lands. Goal 9 identifies site constraints as:

"Site constraints which physically limit developing the site for designated uses. Site constraints include but are not limited to:

(i) The site is not serviceable;

(ii) Inadequate access to the site, and

(iii) Environmental constraints (e.g., floodplain, steep slopes, weak foundation soils)."

The definitions section of the Goal 9 OARs indicates that "not serviceable" means that there are one or more inadequate public facilities (i.e., inadequate sanitary sewer or water facilities) where the site is located and that the deficiency cannot be rectified within one year from the time a building permit is issued or from the time a request for utility extension is made.

The constraints identified in the Gresham inventory are in the following categories:

- **Environmental:** Areas affected by one or both of the following environmental overlay zones. They are the Water Quality Resource Area (WQRA) Overlay District designation that protects streams and wetlands and establishes buffer ("no-build") zones around these water features, as well as the Floodplain Overlay that protects 100 year floodplains and incorporates the Federal Emergency Management Agency (FEMA) flood zones and regulations. New development is very restricted in these areas.
- **Ownership:** Ownership constraints include all parcels that are owned by corporate land banking interests; public jurisdictions, including: school, utility, transportation and park and recreation districts; as well as religious organizations. Such properties are not considered available for sale for industrial development. (Note: Schools, churches and other similar uses are treated as "community service uses" by Gresham's development code. On 5/3/01, Gresham revised its code so that all future schools and churches can only be located on an industrial zoned property when the applicant, e.g., a school district or church, demonstrates that the subject property was owned by the school district or church before 5/3/01.)
- **Infrastructure (public facilities):** These are areas affected by transportation constraints and that have limited development potential because the nearby street system cannot adequately accommodate additional traffic without major improvements. Inadequate water and/or sanitary sewer facilities were also considered a constraining factor in this category.

A complete description of the methodology used for this inventory is given in the attached Appendix B.

VACANT LAND

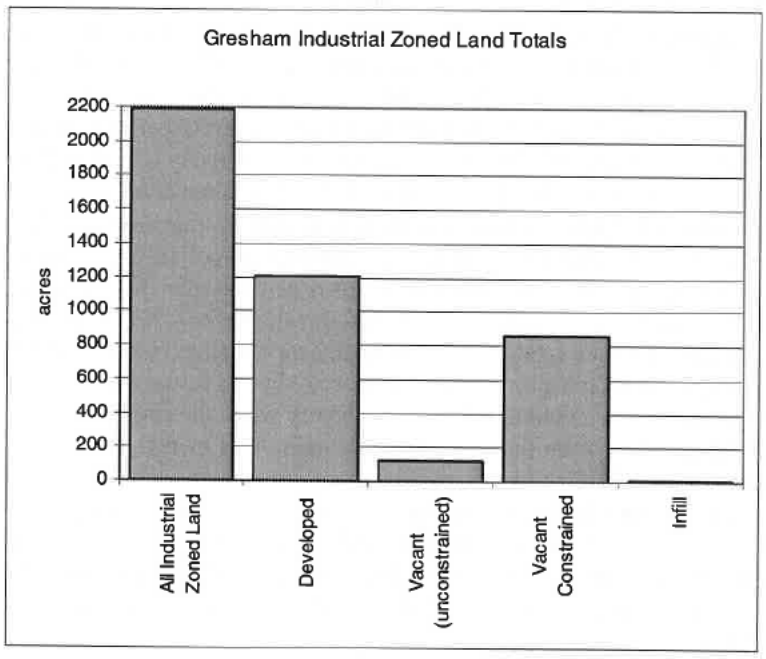
The City of Gresham currently has 981.73 acres of vacant industrial zoned land (includes: vacant/constrained, vacant/unconstrained and vacant/infill). Most of the vacant land (excluding infill)

is constrained however, and equals 858 acres or 87% of the total vacant land. Vacant land that is unconstrained equals 117.05 acres and represents only 12% of all the vacant land currently found in Gresham. Constrained lands have limited development potential because of environmental factors or they may need significant improvements before they are viable for development. Area 1 has the most land that is vacant and constrained. If the necessary transportation projects were constructed, Area 1 could offer an additional 339 acres for industrial development. Areas 1 and 2 have the most vacant unconstrained land in Gresham, areas 5 and 6 have none, and areas 3 and 4 have very little. The combined totals for areas 1-6 are as follows:

Gresham Industrial Zoned Lands (Vacant, Underutilized and Infill): Area Totals (in acres)
Source: LUIS 2002

Area	Vacant (unconstrained)	Vacant Constrained	Underutilized	Underutilized Constrained	Infill	Total
Area 1	38.65	339.01	80.23	11.52	2.1	471.5
Area 2	59.96	2.57	0	5.09	1.3	68.9
Area 3	13.76	195.53	0	35.79	1.3	246.4
Area 4	4.68	163.35	0.99	11.29	1.8	182.1
Area 5	0	76.57	0	0	0	76.57
Area 6	0	81.31	0	92.69	0	174
Total	**117.05**	**858.34**	**81.22**	**153.24**	**6.4**	**1216**

Source: LUIS 2002



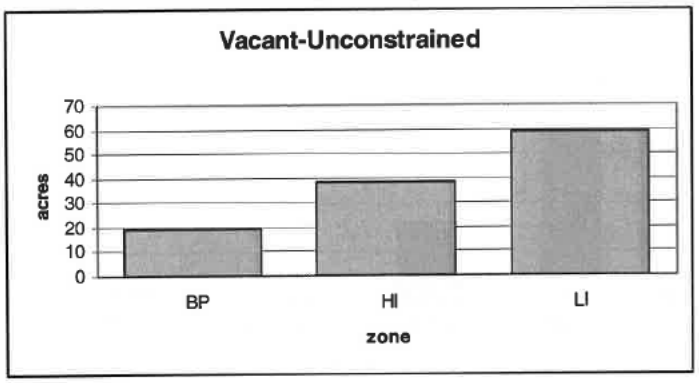
The City of Gresham has approximately 2,191 acres that are zoned for industrial use. More than half, about 1,210 acres (approximately 55%) of the industrial zoned land, is already developed (total includes underutilized parcels), however, and only 117 acres are vacant and unconstrained (ready to

build). The majority of vacant unconstrained land is found within the Light Industrial zoning category and the least amount is found within the Business Park district.

Gresham Industrial Lands (Vacant, Underutilized, and Infill): City Totals by Zone (in acres)

Zone	Vacant (unconstrained)	Vacant Constrained	Underutilized	Underutilized Constrained	Infill	Total
BP	19.51	103.86	69.97	34.19	3.02	233.69
HI	38.28	432.41	0.99	99.29	1.14	572.11
LI	59.26	322.24	10.26	19.76	2.26	413.78
Total	**117.05**	**858.34**	**81.22**	**153.24**	**6.42**	**1216**

Source: LUIS 2002



VACANT CONSTRAINED LAND

The factors constraining vacant industrial land in Gresham include environmental, ownership and infrastructure factors (all current infrastructure constraints are due to inadequate transportation availability). Ownership factors constrain the most acreage in Gresham. The City, for the most part, has adequate infrastructure in place to encourage future industrial development. There are no constraints due to inadequate water or sanitary sewer services, and only Area 1 and Area 6 have constraints due to inadequate transportation facilities.

Constrained Parcels
Source: LUIS 2002

Constraints	Parcels	Acres
Environmental	40	258.77
Ownership	88	511.73
Infrastructure	13	87.76
Total	**141**	**858.26**

VACANT UNCONSTRAINED

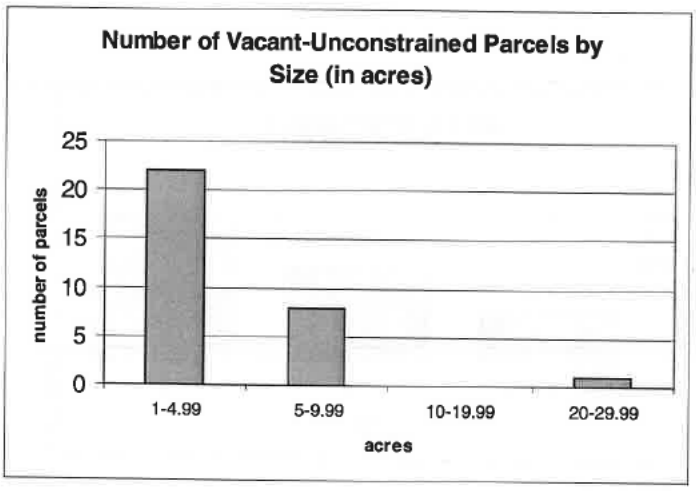
The majority of parcels containing vacant unconstrained land are relatively small for industrial development. The City has only one such parcel greater than 10 acres. It is a 20.73 acre parcel found in

Area 1. The majority of parcels that are vacant/unconstrained and zoned for industrial use are less than 5 acres in size, which limits their potential for future industrial development.

Number of Vacant-Unconstrained Parcels by Size

Parcel Size (acres)	Number of Parcels	Acres
1-4.99	22	44.97
5-9.99	8	51.35
10-19.99	0	0
20-29.99	1	20.73

Source: LUIS 2002



UNDERUTILIZED/UNCONSTRAINED LAND

Underutilized/unconstrained land has some potential for future industrial development. Approximately 81 acres are underutilized/unconstrained. The underutilized/unconstrained category has less, but larger sized parcels, than the vacant/unconstrained category.

Underutilized/unconstrained parcel total and size

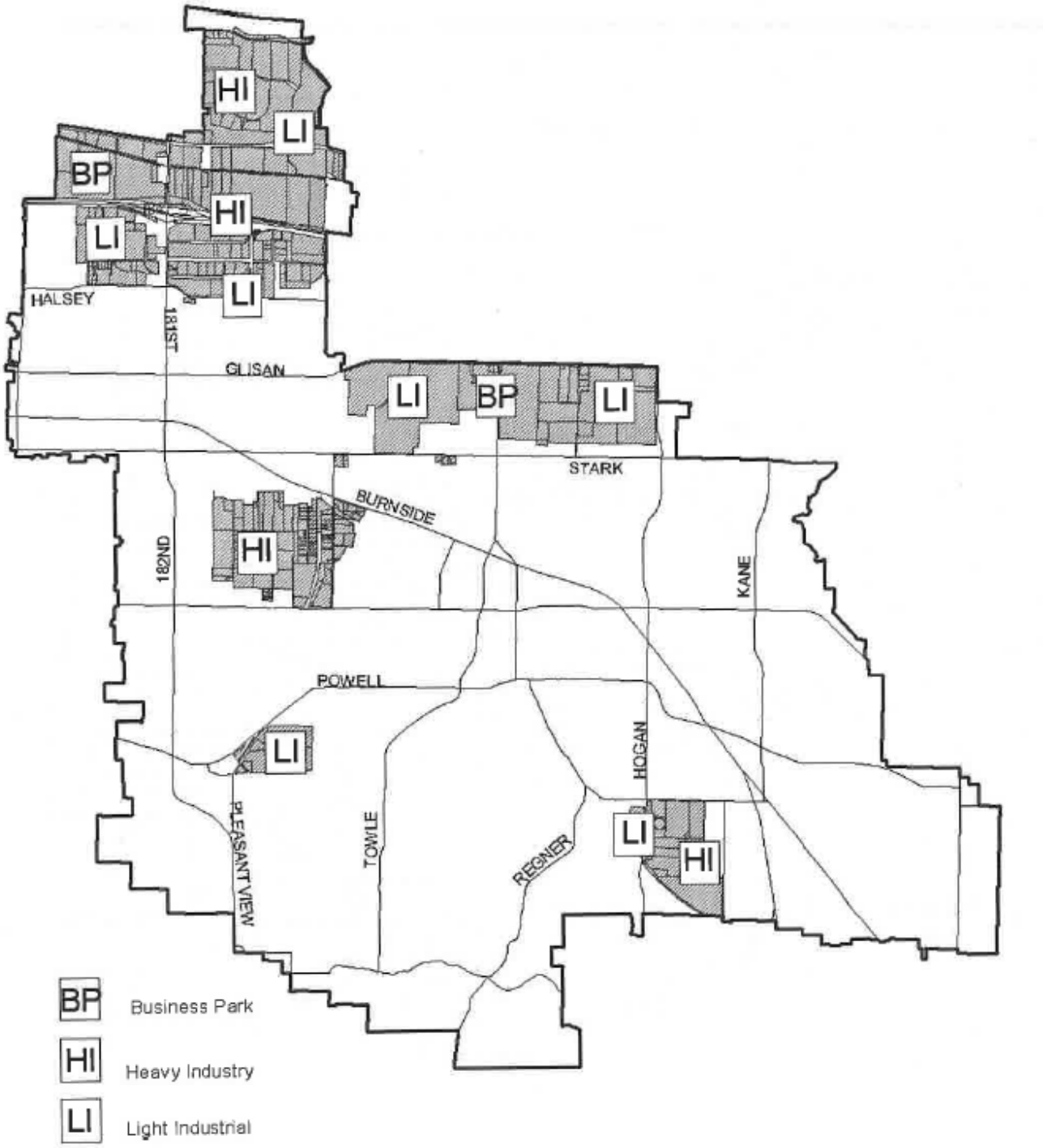
Source: LUIS 2002

Zone	Parcels	Acres
BP	2	69.97
HI	1	0.99
LI	1	10.26
Total	**4**	**81.22**

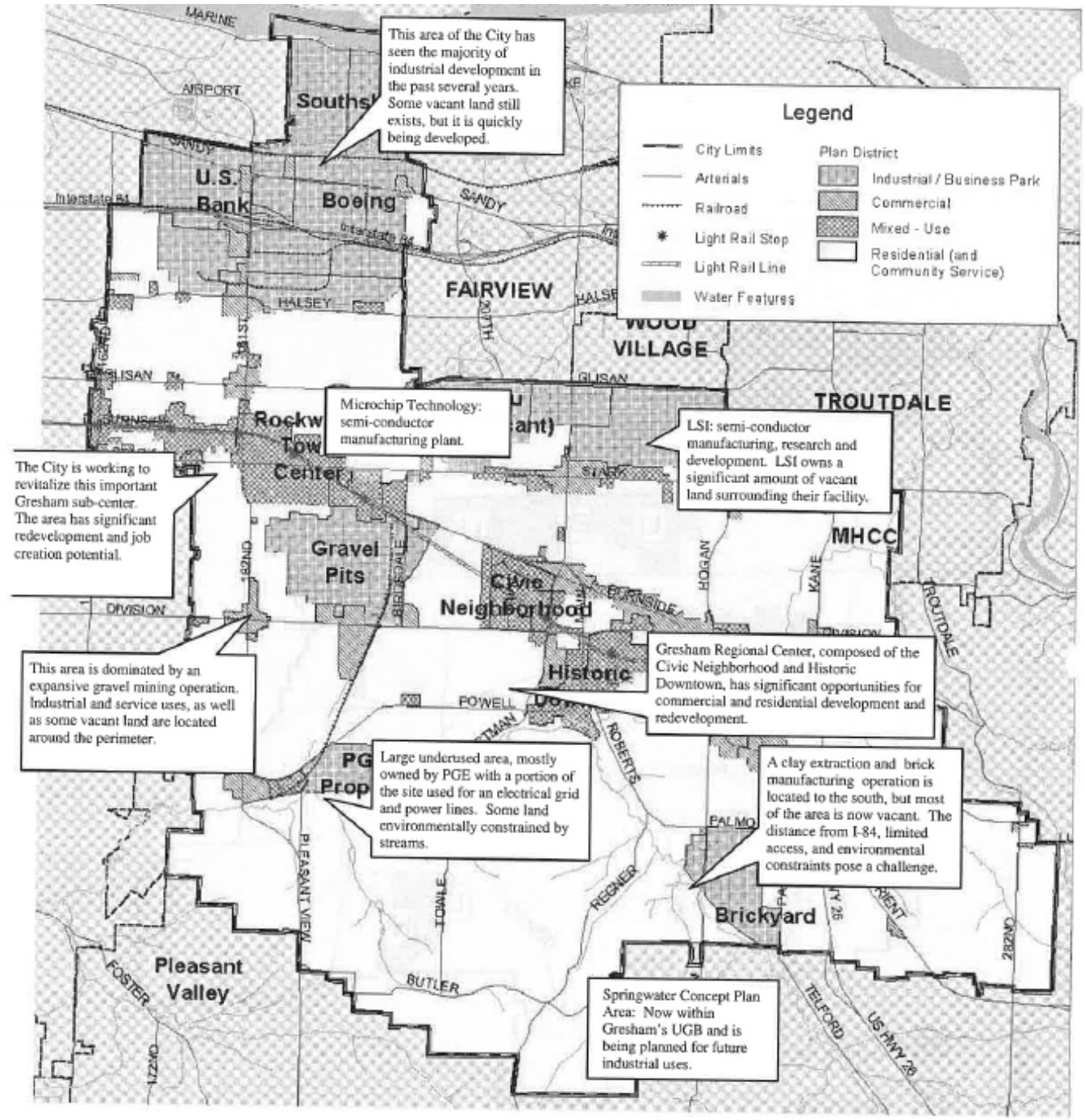
There is one parcel zoned for business park use that has an underutilized/unconstrained portion totaling 66.70 acres. Found in Area 1, it is the largest developable section of land zoned for industrial use in the City of Gresham. The parcel is currently being used for warehousing and agriculture, with agriculture on the underutilized portion.

A detailed inventory and analysis for individual areas follows this section. See following Map 2 for industrial zoned land.

Map 2 Gresham Industrial Zoned Land



MAJOR INDUSTRIAL & COMMERCIAL AREAS OF GRESHAM



Area 1

Area 1 is located in the northwest section of Gresham. Area 1 is bordered on the north by N.E. Marine Dr., on the south by the I-84 freeway, on the west by N.E. 165th Ave. and the City of Portland, and on the east by the City of Fairview (roughly 201st Ave.)

Area 1 contains Gresham's largest contiguous area of industrial zoned land. The total acreage in Area 1 is approximately 660 acres. It provides a fairly equal amount of land in each of the industrial zoning designations: Heavy Industrial (HI) - 219 acres, Light Industrial (LI) - 199 acres, and Business Park (BP) - 242 acres.

The zoning of Area 1 is shown on Map 3.

From the land in Area 1 that is zoned for industrial use, the portion that is undeveloped (vacant or currently used for agriculture) is:

BP:	161.82 acres
HI:	72.67 acres
LI:	121.14 acres
Totaling:	355.83 acres

Land zoned for industrial use and that is currently developed equals:

BP:	80.32 acres
HI:	146.34 acres
LI:	77.85 acres
Totaling:	304.51 acres

Industrial zoned land in Area 1 is 59% undeveloped (vacant or currently used for agriculture) and 41% developed.

Area 1 contains a considerable amount of land that is subject to environmental constraints, mostly within the Columbia River floodplain. Industrial zoned area totals subject to environmental constraints include:

Area 1 Environmental Constraints
Source: LUIS 2002

Zone	Parcels	Acres
BP	0	0
HI	8	26.53
LI	10	51.91
Total	**18**	**78.44**

Area 1 also has a substantial amount of acreage constrained by ownership and inadequate transportation infrastructure.

Area 1 total constrained by ownership includes:

Area 1 Ownership Constraints
Source: LUIS 2002

Zone	Parcels	Acres
BP	15	47.54
HI	19	85.22
LI	8	70.54
Total	**42**	**203.30**

A lack of needed transportation facilities also account for some of the constrained land in Area 1. This area has the highest concentration of freight-related industries in Gresham. Both the l-84 freeway and N.E. 181st Ave. are National Highway System routes and converge in Area 1. The existing streets and intersection cannot accommodate the demands of additional industrial development.

Inadequate transportation infrastructure for vacant/constrained land:

Area 1 Transportation Constraints
Source: LUIS 2002

Zone	Parcels	Acres
BP	3	25.64
HI	4	20.74
LI	1	10.90
Total	**8**	**57.28**

Many of the parcels, in Area 1 are in need of additional transportation access points in order to capitalize on the proximity of major freight routes. Four specific transportation improvement projects are identified in Gresham's Transportation System Plan (TSP) as necessary to correct the access deficiencies. They are the following:

- Widening N.E. 185th Ave. from N.E. Sandy Blvd. to N.E. Marine Drive.
- Extending N.E. Riverside Pkwy. to N.E. Sandy Blvd.
- Widening of N.E. 181st Ave. from N.E. Sandy Blvd. to the I-84 freeway and intersection improvements at I-84 and 181st Ave.

Infrastructure constraints that affect the ability of developable industrial land also include water and sewer availability. Findings for existing water and sewer infrastructure conditions in Area 1 include:

Water: Area 1 has no immediate water system constraints. A network of large-diameter transmission and distribution line provide hi h-capacity service to the area. Primary transmission line are located along N.E. 185th and Sandy Blvd. With the exception of the lower southeast comer, located within the Rockwood Water PUD service district, the City provides water service in this area.

Sewer: Further industrial development in Area 1 will not be constrained by availability or capacity of wastewater service. The West Trunk, one of the city's wastewater interceptors, follows NE 202nd along the eastern edge of the area. A network of smaller collection pipe provides adequate sewer service to the interior parcels. Area 1 is located within the Columbia Sewage Basin, which also includes the City's wastewater treatment plant.

Constrained lands are shown on Map 4.

An "Infill" category has been included in this analysis. Infill includes all parcels that are vacant and have an area less than one acre. The category eliminates parcels that are too small for industrial development, while still allowing for their identification as potential sites for different types of development.

Area 1 infill includes:

BP: 1 parcel equaling	0.69 acres
HI: 2 parcels equaling	0.49 acres
LI: 4 parcels equaling	0.88 acres
Total:	2.06 acres

After the removal of the vacant land that is constrained and infill parcels from Area 1, the remaining vacant unconstrained land totals were found to be:

BP: 1 parcel equaling	6.30 acres
HI: 2 parcels equaling	3.13 acres
LI: 3 parcels equaling	29.21 acres
Total:	38.65 acres

An underutilized lands category was also used in this analysis. It was used to identify parcels that have been built upon, but are not fully developed. They have unused (undeveloped) portions exceeding 1

acre. The underutilized area totals have been subject to the removal of constraints identical to those removed from vacant lands. Underutilized/unconstrained land in Area 1 include:

BP: 2 parcels equaling 69.97 acres

HI: 0 acres

LI: 1 parcel of 10.26 acres

Total: 80.23 acres

Underutilized/constrained area totals include:

BP: 3 parcels equaling 11.51 acres

HI: 0 acres

LI: 0 acres

Total: 11.52 acres

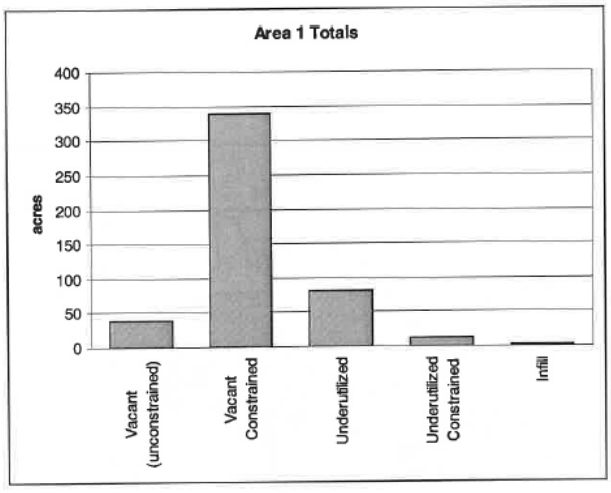
Underutilized and vacant lands are shown on Map 5.

Area 1 totals are as follows:

Area 1: Totals
Source: LUIS 2002

Zone	Vacant (unconstrained)	Vacant Constrained	Underutilized	Underutilized Constrained	Infill	Total
BP	6.30	73.17	69.97	11.52	0.69	161.65
HI	3.13	132.49	0.00	0.00	0.49	136.11
LI	29.22	133.35	10.26	0.00	0.88	173.60
Total	**38.65**	**339.01**	**80.23**	**11.52**	**2.06**	

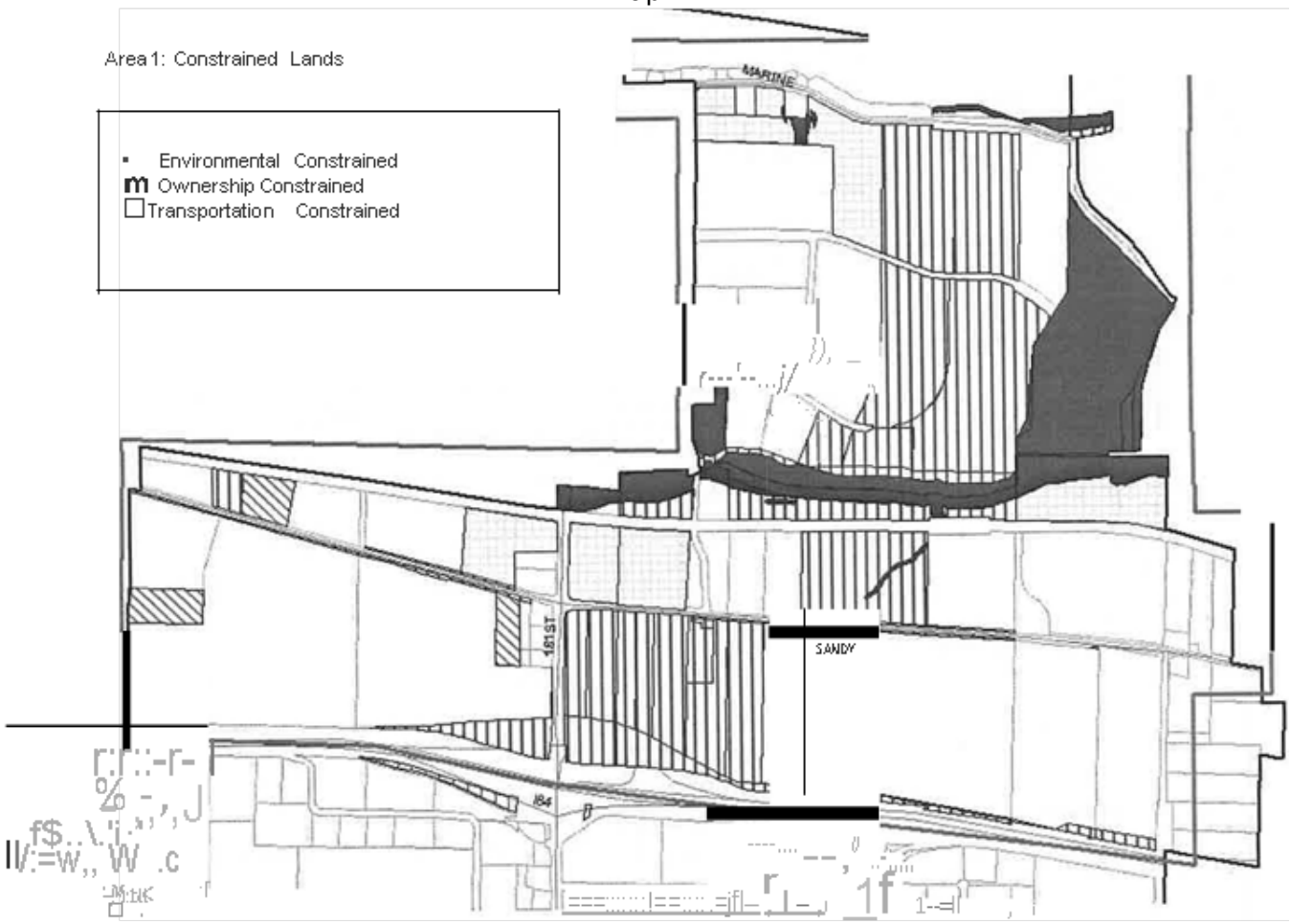
Source: LUIS 2002



Map 3


Area 1: Zones
Industrial Zones
Business Park
Heavy Industrial
Light Industrial
Area 1
MARINE
181ST
SANDY
84

Map 4


Area 1: Constrained Lands
Environmental Constrained
Ownership Constrained
Transportation Constrained
MARINE
181ST
SANDY
184

Map 5

Area 2

Area 2 is located in the northwest section of Gresham directly below (south of) Area 1. The I-84 freeway borders Area 2 along the north and separates it from Area 1. NE Halsey St. borders it along the south N.E. 169th Ave. is to the west, and N.E. 201st Ave./City of Fairview is to the east.

Area 2 has approximately 366 acres zoned for industrial use, with most of the acreage zoned for light industrial uses:

BP:	23.60 acres
HI:	116.40 acres
LI:	226.22 acres
Totaling:	366.22 acres

See Map 6 for Area 2 industrial zoning districts.

The amount that is vacant or currently being used for agriculture equals:

BP:	4.65 acres
HI:	32.28 acres
LI:	29.10 acres
Totaling:	66.03 acres

Land inside Area 2 that is zoned for industrial use and is currently developed equals:

BP:	18.95 acres
HI:	84.11 acres
LI:	197.12 acres
Totals:	300.18 acres

Industrial zoned land inside Area 2 is 82% developed and 18% undeveloped (currently vacant or being used for agriculture).

Area 2 contains no land that is constrained by either environmental factors or transportation infrastructure and only a small amount that is constrained by ownership.

See Map 7 for Area 2 constrained and underutilized/constrained lands.

Area 2: Owner Constrained
Source: LUIS 2002

Zone	Parcels	Acres
BP	2	2.37
HI	1	0.13
LI	1	0.06
Total	**4**	**2.57**

Other infrastructure factors include:

Transportation: Although transportation access is limited in Area 2, further industrial development can still be accommodated. N.E. San Rafael St. currently provides the necessary freight access from N.E. 181st Ave. and allows for freight mobility within the industrial cluster.

N.E. Wilkes Rd. runs parallel to the I-84 freeway to the north and connects with 181st Ave., providing important street frontage access for the industrial activities in Area 2.

Water: Water service is not a constraint to further industrial development in Area 2. Rockwood Water People's Utility District (RWPUD) provides water service to the entire area. High- capacity transmission lines run along the perimeter and are sized to meet the projected demands of industrial users at build-out.

Sewer: Wastewater facilities serving area 2 currently have adequate capacity to support future industrial development. The West Trunk, one of the City's wastewater interceptors, follows 202nd Ave. along the eastern edge and provides high-capacity sewage service to the area.

Area 2 has only 1 parcel that is underutilized and constrained (it is owned by a utility).

Area 2 Underutilized Constrained
Source: LUIS 2002

Zone	Parcels	Acres
LI	1	5.09

Area 2 has several parcels that can be considered for infill development:

Area 2 Infill
Source: LUIS 2002

Zone	Parcels	Acres
BP	0	0
HI	2	0.52
LI	3	0.76
Total	**5**	**1.28**

After the removal of constrained, underutilized/constrained and infill parcels, Area 2 has remaining vacant unconstrained land totaling:

Area 2: Vacant Unconstrained
Source: LUIS 2002

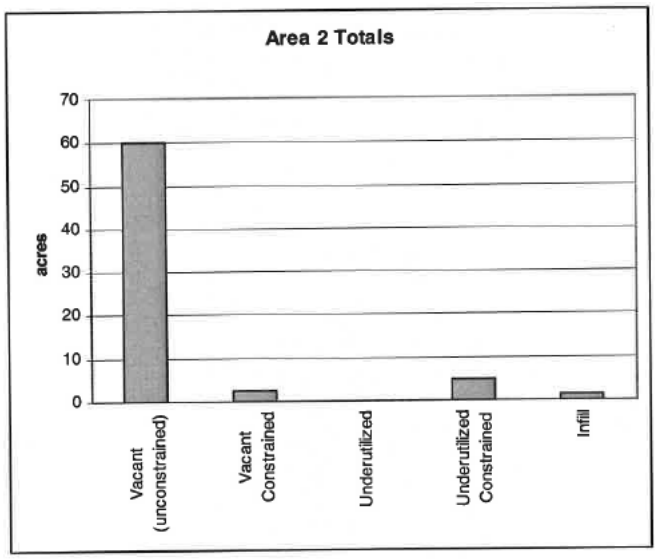
Zone	Parcels	Acres
BP	1	2.28
HI	8	31.63
LI	5	26.05
Total	**14**	**59.96**

See Map 8: for Area 2 vacant and infill land.

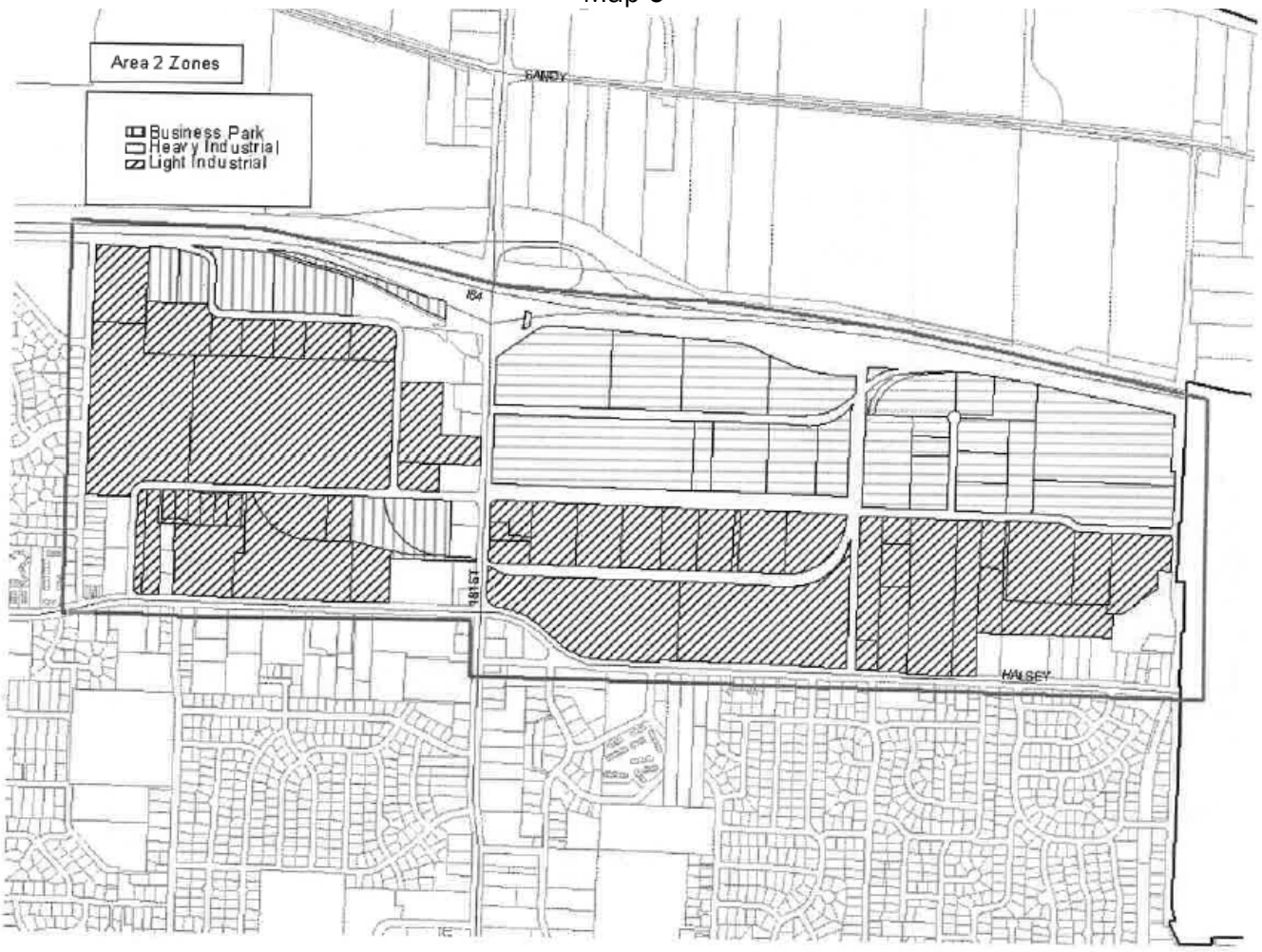
Area 2 Totals

Zone	Vacant (unconstrained)	Vacant Constrained	Underutilized	Underutilized Constrained	Infill	Total
BP	2.28	2.37	0	0	0	4.65
HI	31.63	0.13	0	0	0.52	32.28
LI	26.05	0.06	0	5.09	0.76	36.93
Total	**59.96**	**2.57**	**0**	**5.09**	**1.28**	

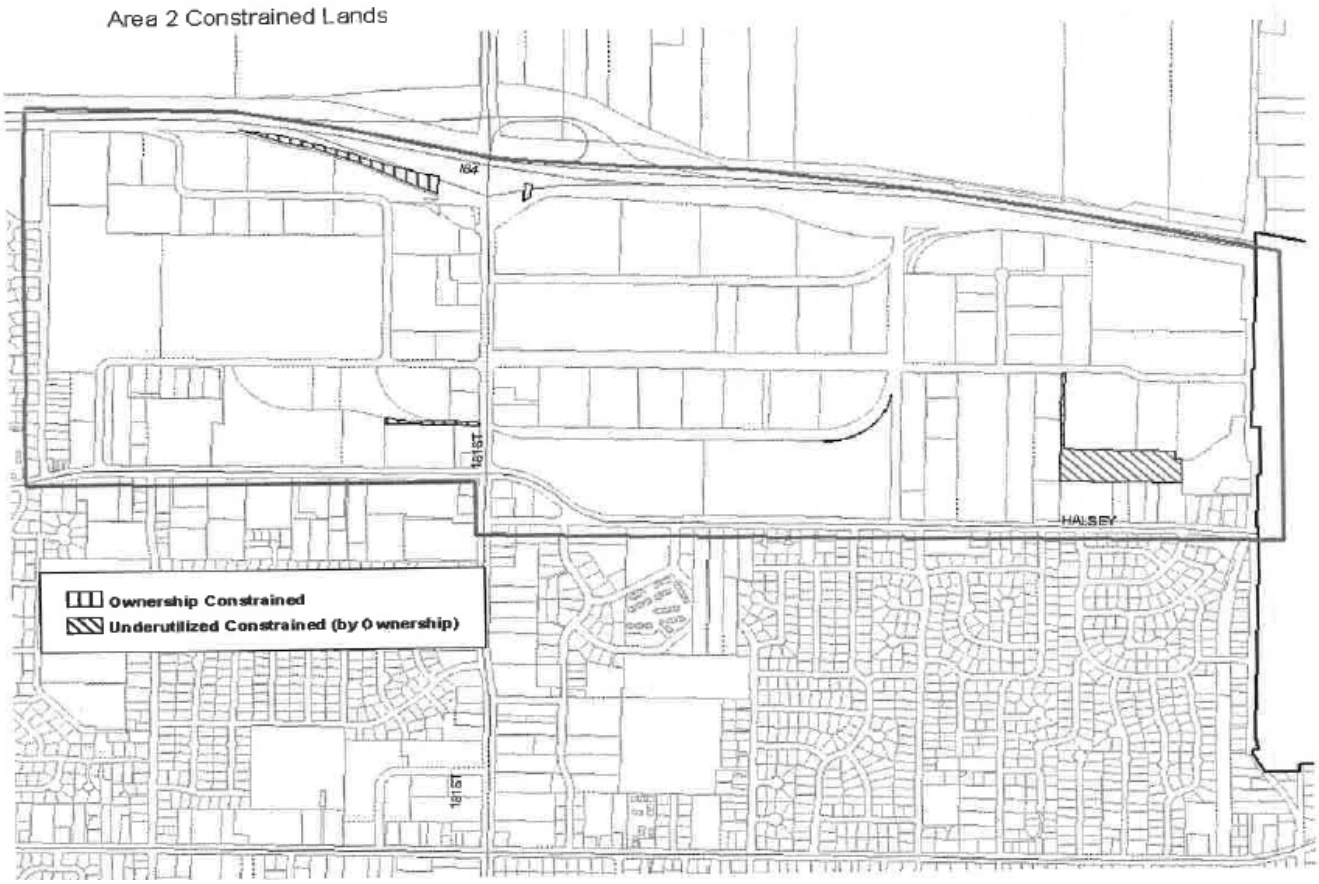
Source: LUIS 2002



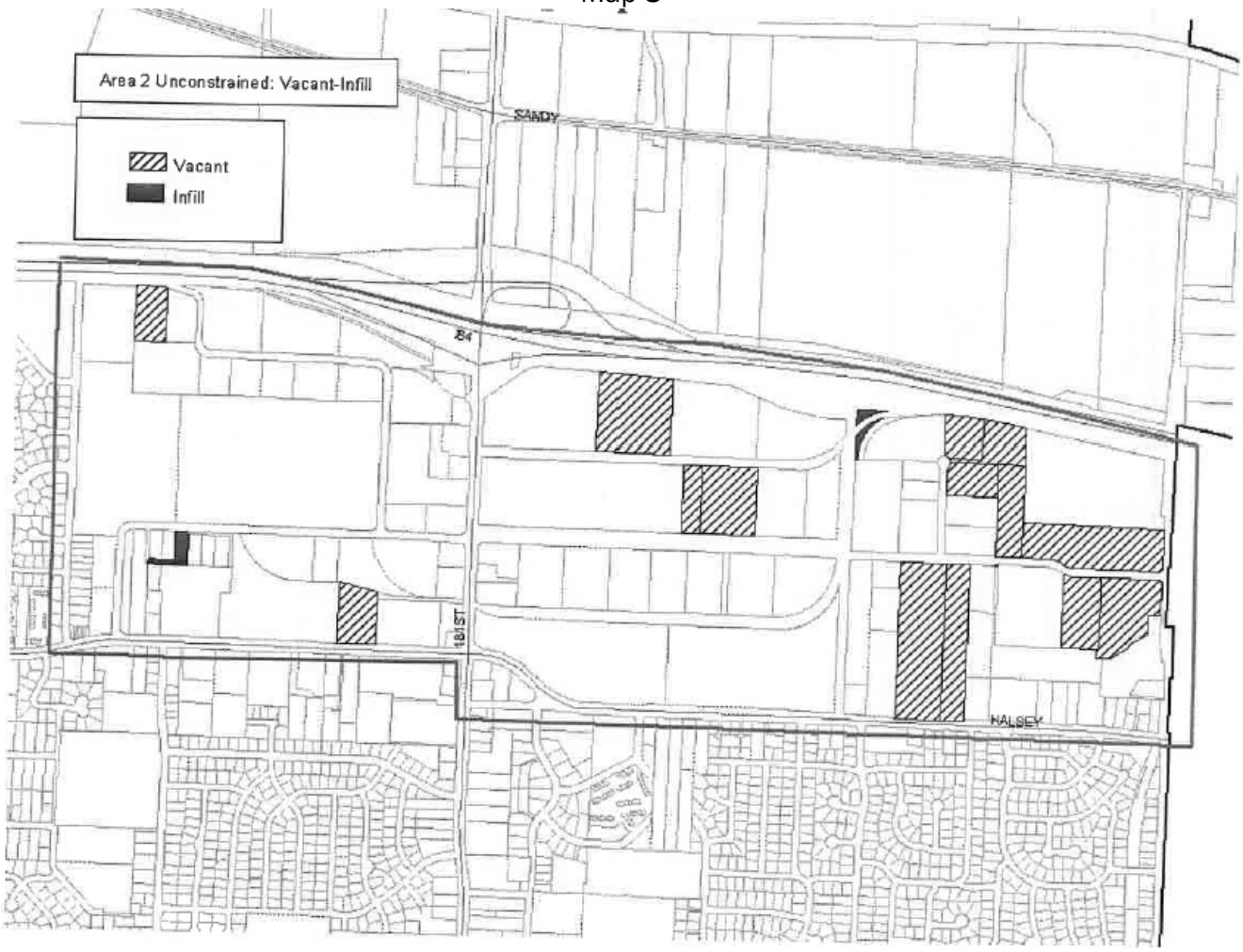
Map 6


Area 2 Zones
Business Park
Heavy Industrial
Light Industrial
SANDY
181ST
HALSEY

Map 7


Area 2 Constrained Lands
Ownership Constrained
Underutilized Constrained (by Ownership)
HALSEY

Map 8


Area 2 Unconstrained: Vacant-Infill
Vacant
Infill
SANDY
I84
181ST
HALSEY

Area 3

Area 3 is located in the north-central section of Gresham. N.E. Glisan St. and the cities of Fairview and Wood Village border Area 3 on the north. SE Stark St. is located along the southern boundary, N.E. 202nd Ave. is to the west and N.E. Hogan Rd. (242nd Ave) is to the east.

Area 3 has approximately 564 acres and most is zoned for light industrial uses. Area 3 has 475.18 acres zone LI and 88.82 acres zoned BP. There is no HI zoned land in Area 3.

See Map 9 for Area 3 industrial zoned land.

Area 3 vacant land totals:

BP:	51.96 acres
LI:	81.69 acres
HI:	0.00 acres
Totaling:	133.25 acres

Land that is currently developed equals:

BP:	37.25 acres
LI:	393.48 acres
HI:	0.00 acres
Totaling:	430.73 acres

Industrial zoned land in Area 3 is 76% developed and 24% undeveloped.

Land in Area 3 is subject to environmental constrains, specifically wetlands and a stream (Fairview Creek):

Area 3 Environmental Constraints
Source: LUIS 2002

Zone	Parcels	Acres
BP	1	2.55
LI	1	0.52
HI	0	0.00
Total	**2**	**3.07**

Area 3 has substantial amounts of land constrained by ownership and no land constrained by inadequate transportation infrastructure:

Area 3 Ownership Constraints
Source: LUIS 2002

Zone	Parcels	Acres
BP	1	15.75
LI	14	176.71
HI	0	0
Total	**15**	**192.46**

Underutilized/Constrained industrial land inside area 3 equals:

Area 3 Underutilized/Constrained
Source: LUIS 2002

Zone	Parcels	Acres
BP	1	21.12
HI	0	0
LI	2	14.67
Total	**3**	**35.79**

Microchip Technology Inc. (MTI) owns a 196-acre parcel on the far western portion of Area 3, although much of it is underutilized and subject to environmental constraints, MTI currently has an active building permit on the property; therefore it is impossible to calculate a complete underutilized/constrained total for Area 3. The entire MTI 196-acre parcel has been considered developed for this analysis.

See Map 10 for Area 3 constrained land. Other infrastructure factors include:

Transportation: Transportation access in Area 3 is sufficient for the high-tech firms currently occupying the area. Primary access to Area 3 is provided via N.E. Glisan St., SE Stark St. and 223rd Ave. Although "heavier' industrial uses may require improvements for freight access, it is unlikely that the current zoning mix of Light Industrial (LI) and Business Park (BP) will be changed to include Heavy Industrial (HI).

Water: The water system serving Area 3 has been built to accommodate the needs of the City's two highest volume water users (LSI and MTI). Future development or expansion of existing activities within the area will not be constrained by the availability of water, as city-wide water demand forecasting has been projected with future increased demands for water in Area 3.

Currently, Rockwood Water P.U.D. serves the portion of Area 3 west of N.E. 223rd Ave. while the easterly portion is served by the City of Gresham.

Sewer: The wastewater system serving Area 3 is currently able to support further industrial development. The 20-24" sanitary sewer collector pipe in SE Stark St. provides Area 3 with the high-capacity sewer service necessary for high intensity industrial activities.

Area 3 has a small amount of land that can be considered for infill development:

Area 3 Infill
Source: LUIS 2002

Zone	Parcels	Acres
BP	2	1.30
HI	0	0.00
LI	0	0.00
Total	**2**	**1.30**

After the removal of all vacant/constrained, underutilized/constrained and infill parcels, Area 3 has vacant unconstrained land totaling:

Area 3 Vacant Land
Source: LUIS 2002

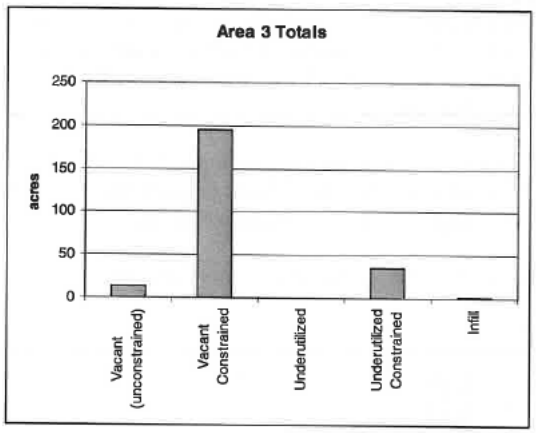
Zone	Parcels	Acres
BP	6	9.77
HI	0	0
LI	2	3.99
Total	**8**	**13.76**

See Map 11 for Area 3 vacant, underutilized and infill land.

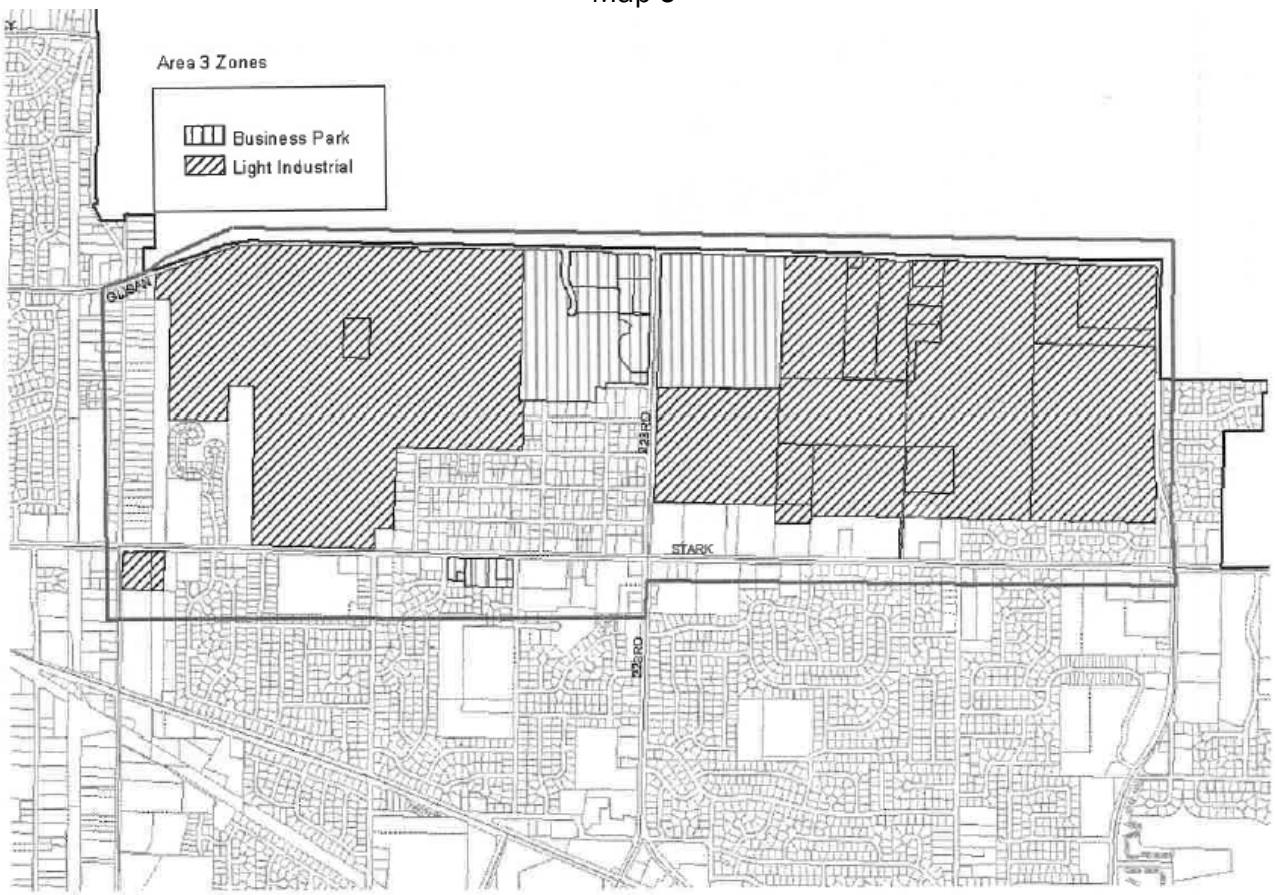
Area 3 totals are as follows:

Area 3: Totals
Source: LUIS 2002

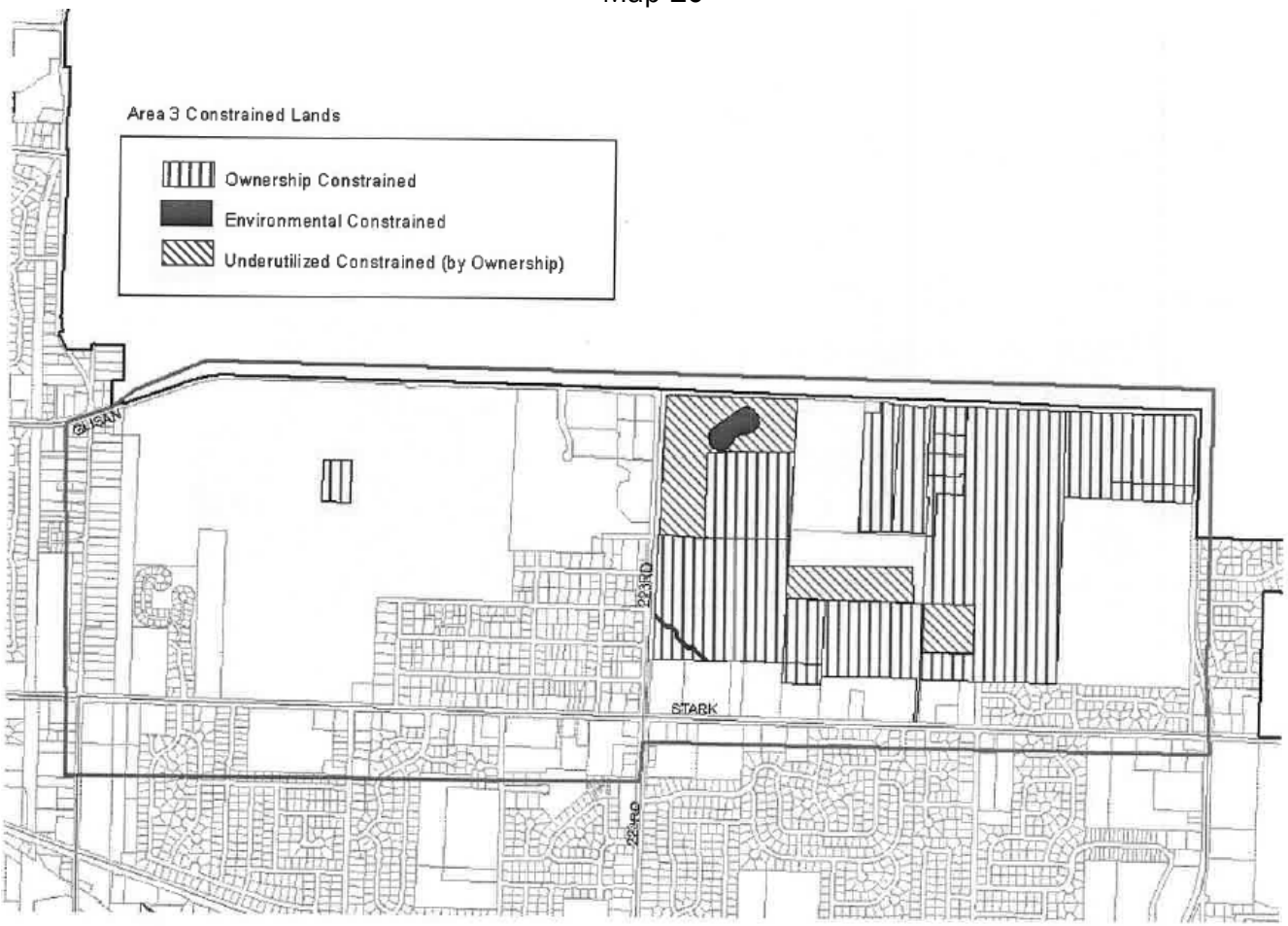
Zone	Vacant (unconstrained)	Vacant Constrained	Underutilized	Underutilized Constrained	Infill	Total
BP	9.77	18.30	0.00	21.12	1.30	50.49
HI	0.00	0.00	0.00	0.00	0.00	0.00
LI	3.99	177.23	0.00	14.67	0.00	195.89
Total	**13.76**	**195.53**	**0.00**	**35.79**	**1.30**	


Area 3 Totals
acres
250
200
150
100
50
0
Vacant (unconstrained)
Vacant Constrained
Underutilized
Underutilized Constrained
Infill

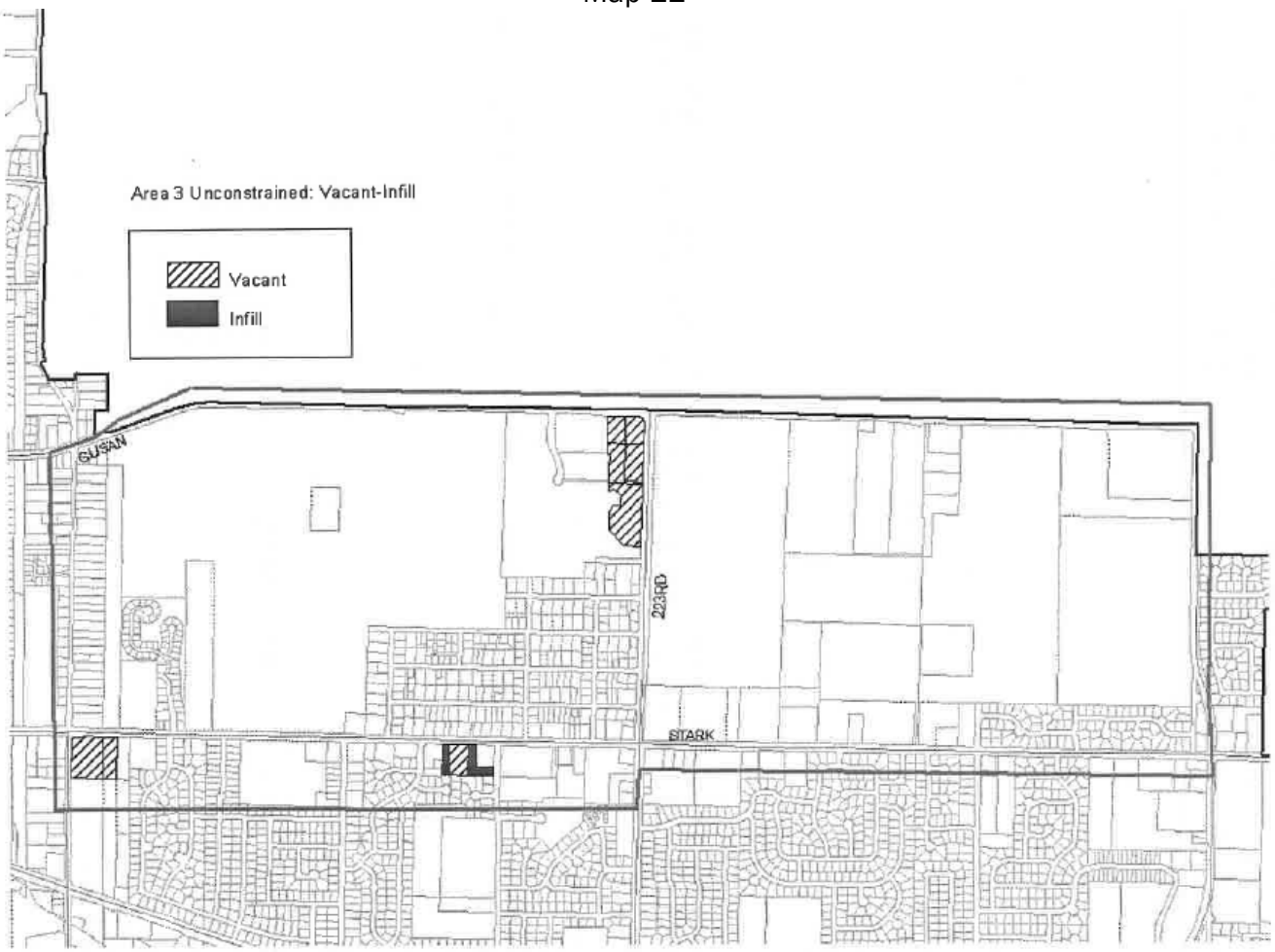
Map 9


Area 3 Zones
Business Park
Light Industrial
GLISAN
STARK

Map 10


Area 3 Constrained Lands
Ownership Constrained
Environmental Constrained
Underutilized Constrained (by Ownership)
GLISAN
223RD
STARK
222ND

Map 11


Area 3 Unconstrained: Vacant-Infill
Vacant
Infill
GUSAN
223RD
STARK

Area 4

Area 4 is located in the west-central section of Gresham. SE Division St. borders Area 4 on the north, SE Yamhill St. borders it along the south, SE 182nd Ave. is to the west, and SE 202nd Ave. is to the east. It is located just south of the Ruby Junction MAX light rail station center.

The total acreage of Area 4 that is zoned for industrial uses is approximately 339 acres. Most of Area 4's industrial zoned acreage is found in the HI category with 281.78 acres. BP zoning accounts for 28.11 acres and LI for 29.55 acres.

See Map 12: for Area 4 industrial zoned land.

Within the land that is zoned for industrial use in Area 4, the portion that is currently vacant or being used for agriculture is:

BP:	11.93 acres
HI:	147.98 acres
LI:	9.7 acres
Totaling:	169.61 acres

Land zoned for industrial use and is currently developed equals:

BP:	16.18 acres
HI:	133.80 acres
LI:	19.85 acres
Totaling:	169.83 acres

Developed to undeveloped industrial zoned land in area 4 is 50%, 50%.

Area 4 has quite a bit of area that is subject to environmental constraints. There are several wetlands, a stream (Fairview Creek) and land found within the floodplain that is associated with the stream. Industrial land subject to environmental constraints equals:

Area 4 Environmental Constrains
Source: LUIS 2002

Zone	Parcels	Acres
BP	6	9.83
HI	4	3.16
LI	1	0.37
Total	**11**	**13.36**

Area 4 also contains a large section that is constrained by a quarry that has been in operation for many years. It is expected to remain in operation for the next 20 yrs. The quarry is considered a special environmental factor and for the purpose of this analysis the land within it has been categorized as constrained. Approximately 118. 91 acres are constrained by the quarry and all of the quarry's acreage is found completely within the HI zoning category.

Acreage in Area 4 that is constrained by ownership is:

Area 4 Ownership Constraints
Source: LUIS 2002

Zone	Parcels	Acres
BP	1	0.19
HI	6	22.08
LI	4	8.81
Total	**11**	**31.08**

Underutilized/constrained acreage equals:

Area 4 Underutilized/Constrained
Source: LUIS 2002

Zone	Parcels	Acres
BP	1	1.55
HI	6	6.60
LI	0	0
Total	**8**	**8.15**

Area 4 has no constrained land due to inadequate transportation infrastructure. See Map 13 for Area 4 constrained lands.

Other infrastructure factors include:

Transportation: The transportation system serving Area 4 provides enough freight access to facilitate future redevelopment upon the conclusion of the mining activities. SE Division St. is the main access point for freight traffic. Both Eastwood St. and SE 190th Ave. connect to SE Division St. and provide access to the interior of the area.

Water: The water transmission system in Area 4 is currently able to accommodate future industrial development. Mid-sized distribution pipes serve both the perimeter and interior of the area. Water service in Area 4 is provided solely by the Rockwood Water P.U.D.

Sewer: The wastewater system in Area 4 has enough capacity to allow for further expansion of high intensity industrial activities. The West Trunk sanitary sewer interceptor runs along the eastern edge, providing Area 4 with the necessary wastewater capacity to support future industrial development.

After the constrained lands were removed from Area 4, vacant/unconstrained, underutilized/unconstrained and infill parcels remained. The amount of infill is as follows:

Area 4 Infill
Source: LUIS 2002

Zone	Parcels	Acres
BP	3	1.03
HI	1	0.13
LI	2	0.62
Total	**6**	**1.78**

Area 4 has one parcel that is underutilized. It is 0.99 acres in area and zoned HI, Heavy Industrial.

Vacant/unconstrained land inside Area 4 equals:

Area 4 Vacant
Source: LUIS 2002

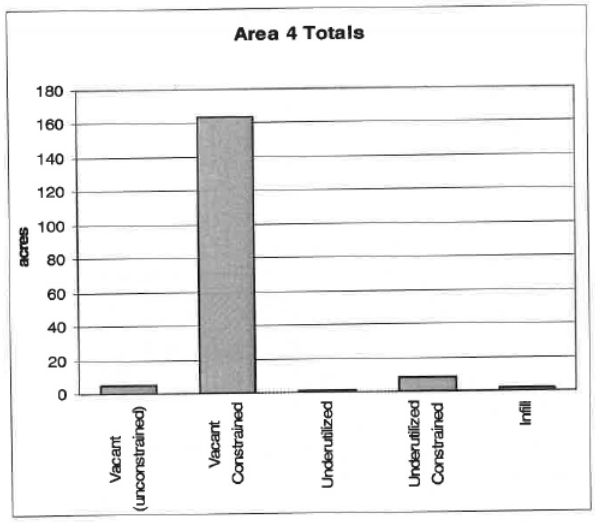
Zone	Parcels	Acres
BP	1	1.16
HI	2	3.52
LI	0	0
Total	**3**	**4.68**

See Map 14 for Area 4 vacant, underutilized and infill lands.

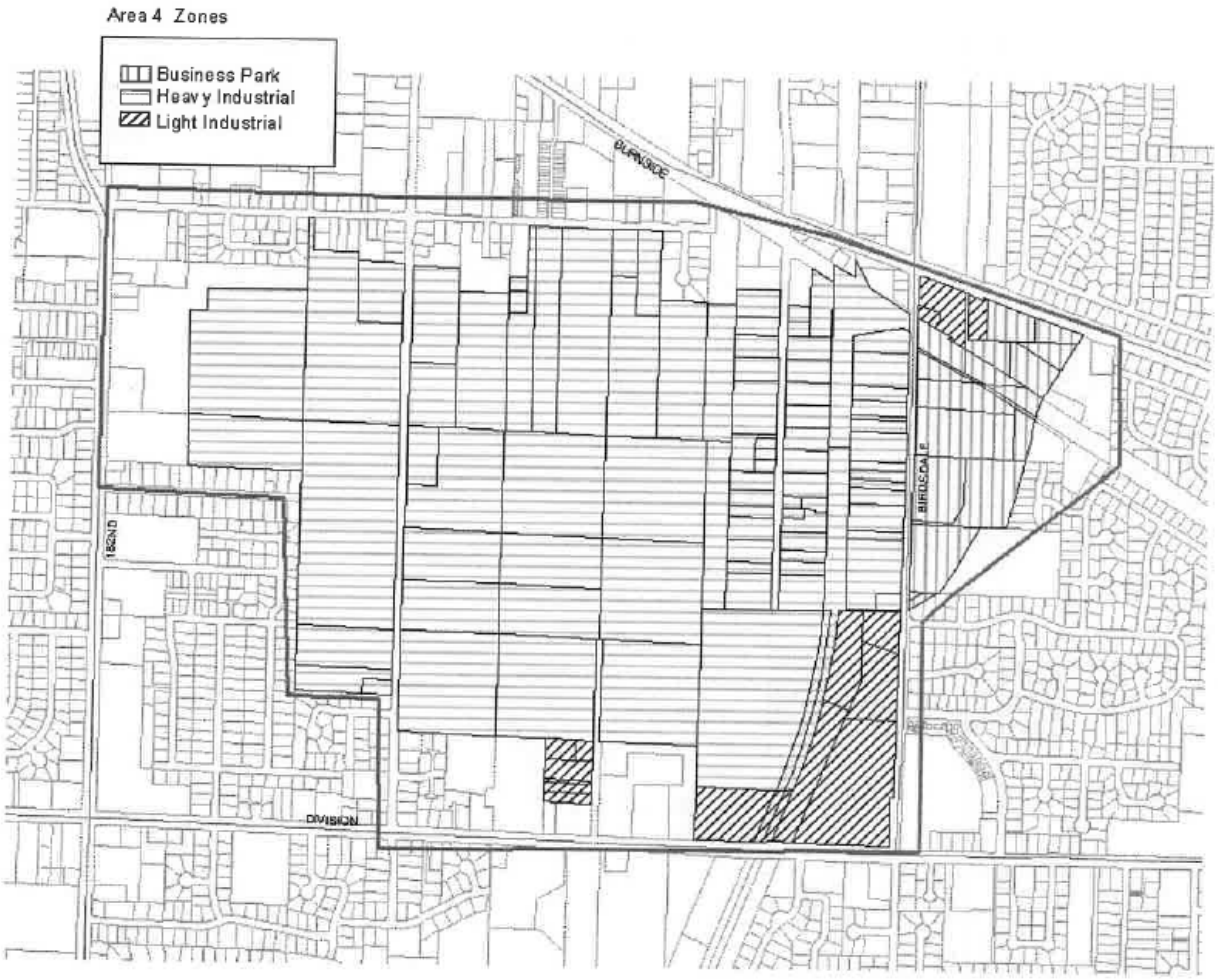
Area 4: Totals
Source: LUIS 2002

Zone	Vacant (unconstrained)	Vacant Constrained	Underutilized	Underutilized Constrained	Infill	Total
BP	1.16	10.02	0.00	1.55	1.03	13.76
HI	3.52	144.15	0.99	6.60	0.13	155.39
LI	0.00	9.18	0.00	0.00	0.62	9.80
Total	**4.68**	**163.35**	**0.99**	**8.15**	**1.78**	

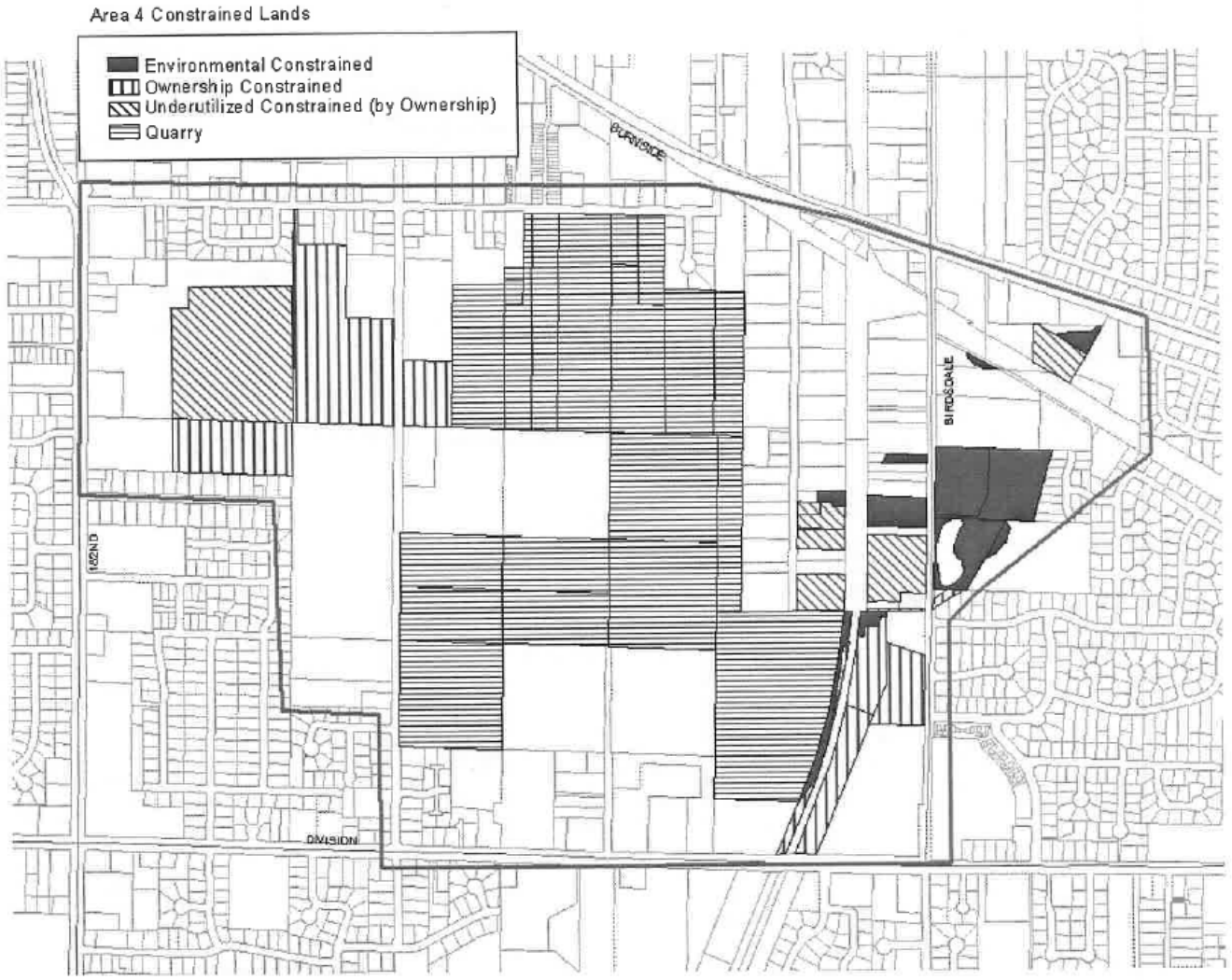
Source: LUIS 2002



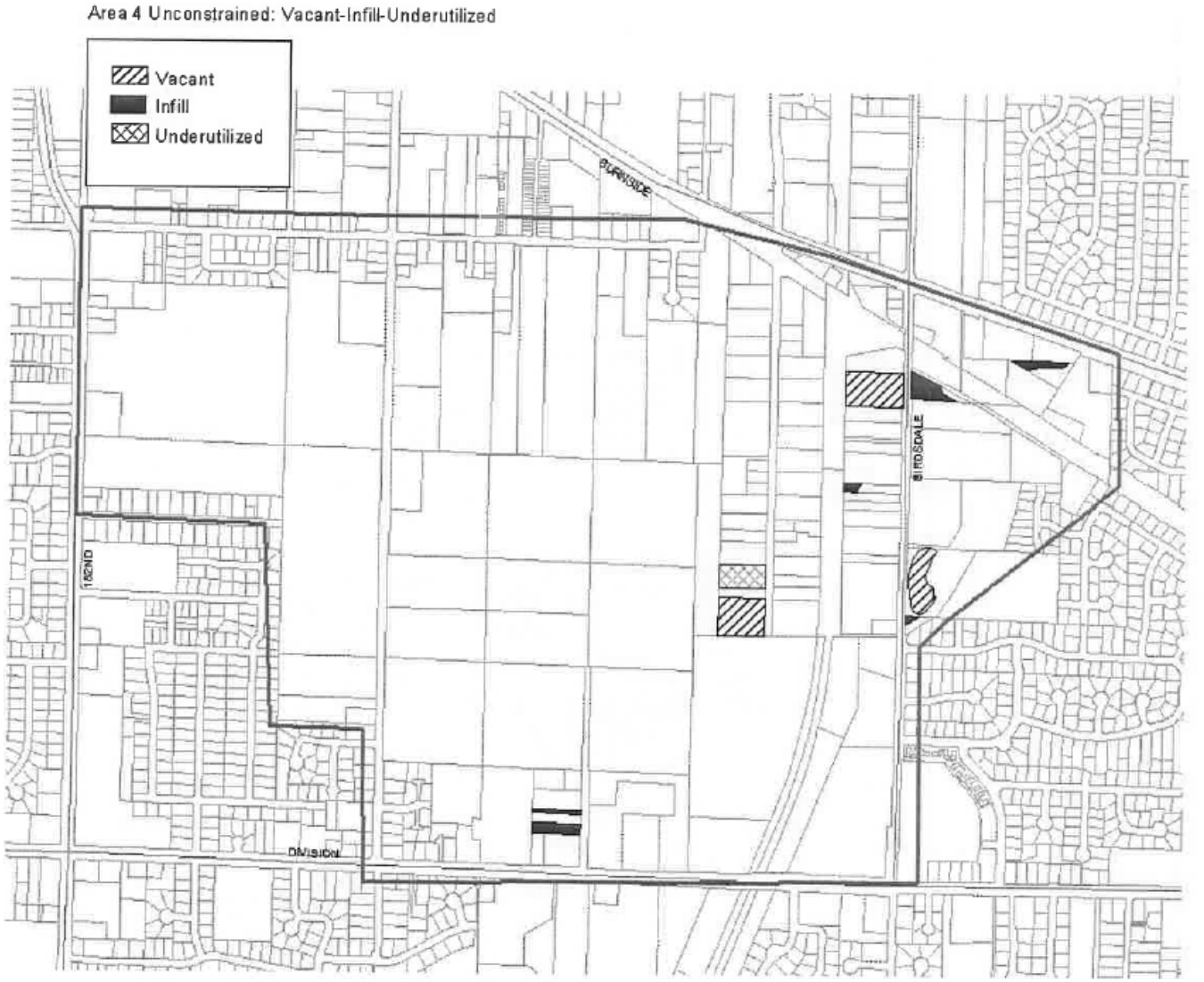
Map 12



Map 13


Area 4 Constrained Lands
Environmental Constrained
Ownership Constrained
Underutilized Constrained (by Ownership)
Quarry
BURNSIDE
BIRDSDALE
182ND
DIVISION

Map 14


Area 4 Unconstrained: Vacant-Infill-Underutilized
Vacant
Infill
Underutilized
BURNSIDE
BIRDSDALE
182ND
DIVISION

Area 5

Area 5 is located in the southwest section of Gresham. SE Powell Blvd. borders Area 5 along the north and west sides. The Springwater Trail Corridor abuts the southerly edge of Area 5.

Area 5 consists entirely of vacant land that is zoned LI, Light Industrial. There is a total of 76.75 acres within Area 5 and it is all constrained by ownership. Five parcels belong to the City of Gresham and seven belong to Portland General Electric (PGE). Part of the PGE property is used as a storage yard for their utility equipment.

See Map 15 for Area 5 industrial zoned land. Infrastructure factors include:

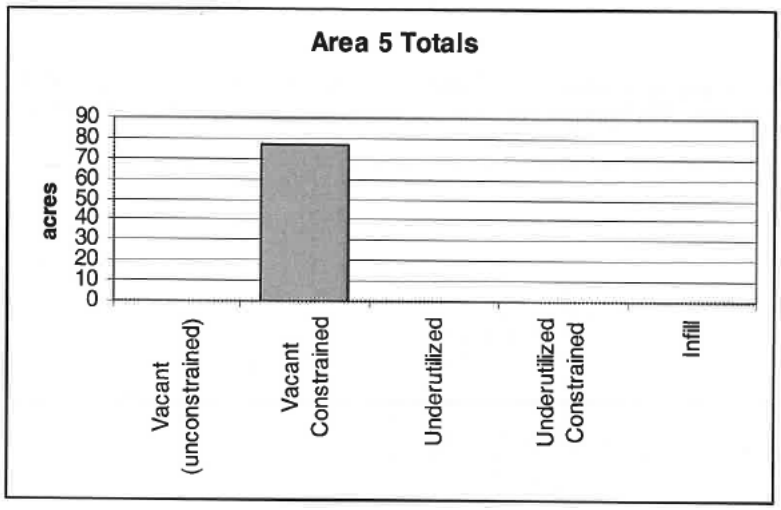
Transportation: The transportation system serving Area 5 provides necessary road capacity and access to support a wide range of industrial uses. Currently, SE Powell Blvd. serves as the main freight access point for this area.

Water: The existing water system has the capacity to accommodate increased industrial use in Area 5. A large-diameter water transmission line enters the area in the northwest comer and smaller distribution pipes provide service to the rest of the area.

Sewer: The wastewater system serving Area 5 is adequate to support the increasing demands for future industrial development. Large-diameter sewer lines run along the south and northwest sides and provide adequate service to the area.

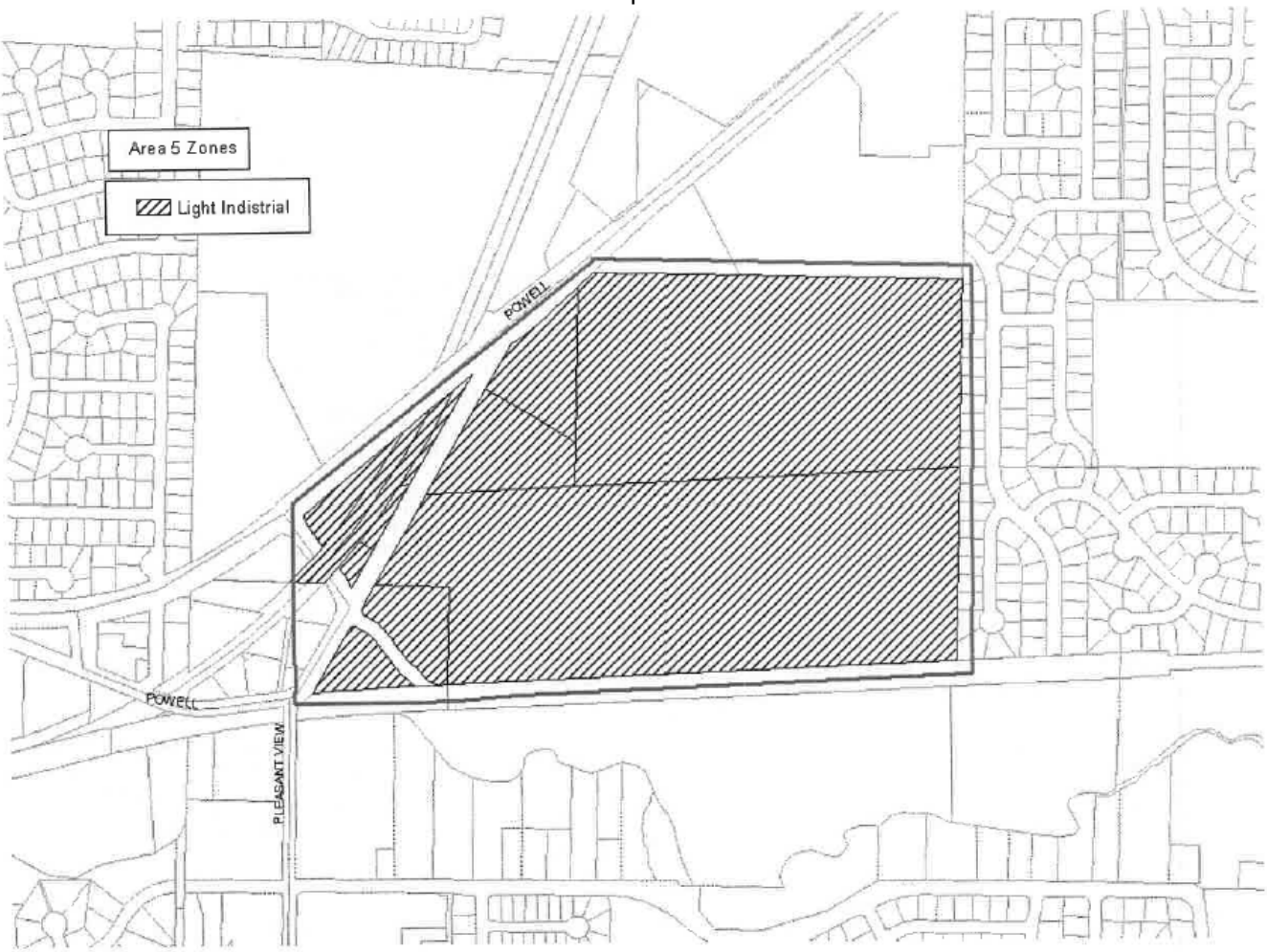
See Map 16 for Area 5 constrained lands.

Source: LUIS 2002

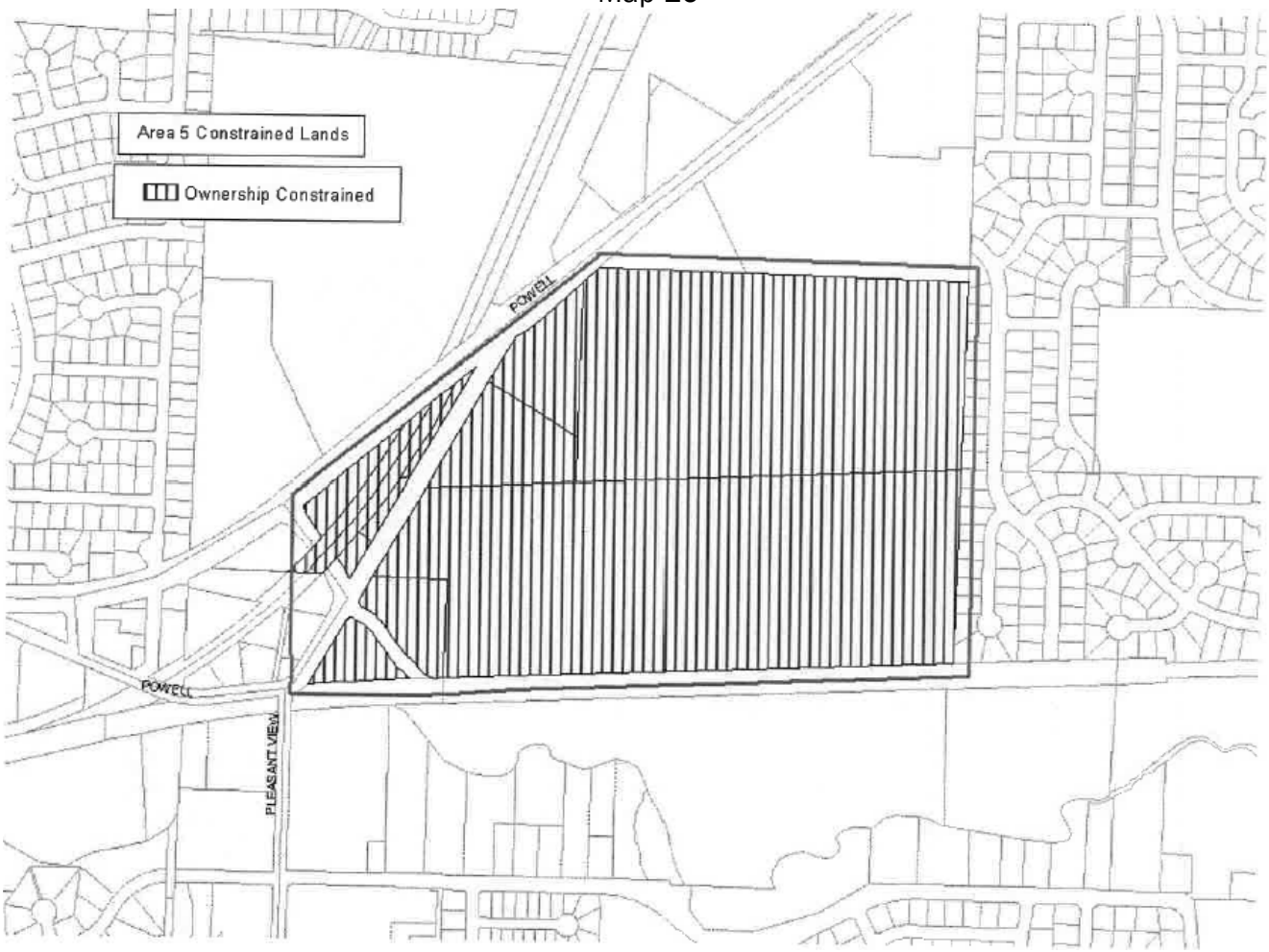


See May 17 for Area 5 vacant, underutilized and infill lands.

Map 15



Map 16


Area 5 Constrained Lands
Ownership Constrained
POWELL
POWELL
PLEASANT VIEW

Map 17

Area 6

Area 6 is located in the southeast area of Gresham. SE Palmquist Rd. borders Area 6 on the north and SE Hogan Rd. borders on the west. The south and east side of Area 6 have no major streets along their borders. The southern tip of Area 6 abuts the city limits. The dominant existing use in Area 6 is a clay extraction/brick manufacturing use (Columbia Brickworks) that is located along the east side of SE Hogan Rd.

Area 6 has approximately 185 acres zoned for industrial use. One hundred and sixty-three acres are zoned HI and about 22 acres are zoned LI. There is no BP zoned land in Area 6.

See Map 18 for Area 6 industrial zoning.

Area 6 industrial land acreage that is currently vacant equals:

HI: 100.71 acres

LI: 2.42 acres

Totaling: 103.13 acres

Land zoned for industrial use in Area 6 that is currently developed equals:

HI: 62.03 acres

LI: 19.44 acres

Totaling: 81.47 acres

Industrial zoned land in Area 6 is 56% vacant and 44% developed.

The total acreage in Area 6 that is environmentally constrained is:

Area 6 Environmental Constraints
Source: LUIS 2002

Zone	Parcels	Acres
BP	0	0
HI	7	2.69
LI	2	0.65
Total	**9**	**3.34**

Area 6 is also subject to ownership constraints:

Area 6 Ownership Constraints
Source: LUIS 2002

Zone	Parcels	Acres
BP	0	0
HI	1	4.07
LI	3	1.77
Total	**4**	**5.84**

A large portion of Area 6 is currently underutilized, but constrained by inadequate transportation infrastructure.

Area 6 Underutilized/Constrained
Source: LUIS 2002

Zone	Parcels	Acres
BP	0	0
HI	2	92.69
LI	0	0
Total	**2**	**92.69**

The remaining vacant land found inside area 6 is also constrained by inadequate transportation infrastructure. The total acreage of the remaining vacant land in Area 6 (constrained by inadequate transportation) is completely found within the HI, Heavy Industrial zoning designation and equals 72.03 acres.

See Map 19 for Area 6 constrained lands. Other infrastructure factors include:

Transportation: Future industrial development in all of Area 6 is constrained by limited transportation access. U.S. Highway 26 is the major freight route serving Area 6. However, it is not located within Area 6 but is directly to the east. Two arterials (SE Hogan Rd. and Palmquist Rd.) connect Area 6 to Hwy. 26. Both roads are currently limited in their ability to accommodate freight traffic and cannot, in their present condition, be expected to handle an increase in industrial activity within Area 6.

Area 6 is also adjacent to the Springwater Trail Corridor and Johnson Creek. The proximity to these two environmental features eliminates the potential for building access to Area 6 from the south.

Economic Opportunities Analysis - Industrial Lands Part ll: Inventory

Water: The existing water transmission system has adequate capacity to accommodate more intensive industrial uses in Area 6. Large-diameter water transmission lines provide service to the perimeter of the area while small improvements to the distribution system could easily be made to improve service to the area's interior.

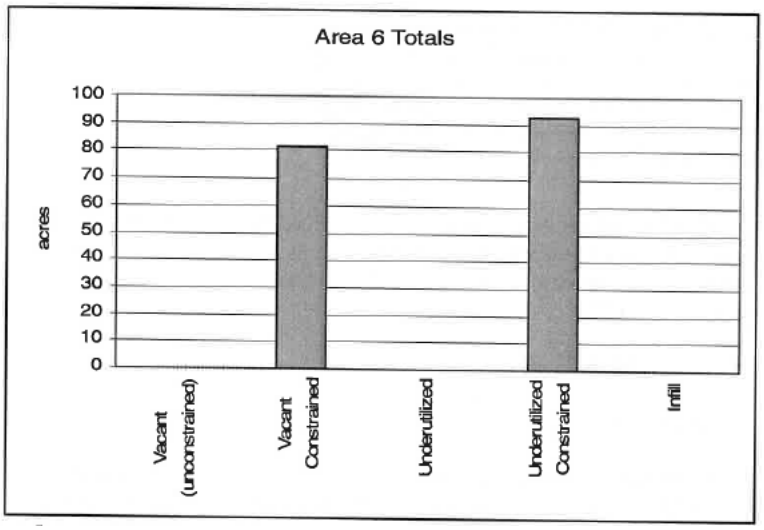
Sewer: The wastewater system serving Area 6 has the additional capacity necessary to satisfy the increasing demands of future industrial development. Existing high-capacity sewer lines are located along the west and southwest edges of Area 6.

Area 6 Totals:

Area 6: Totals
Source: LUIS 2002

Zone	Vacant (unconstrained)	Vacant Constrained	Underutilized	Underutilized Constrained	Infill	Total
HI	0	78.89	0	92.69	0	171.58
LI	0	2.42	0	0	0	2.42
Total	**0**	**81.31**	**0**	**92.69**	**0**	

Source: LUIS 2002

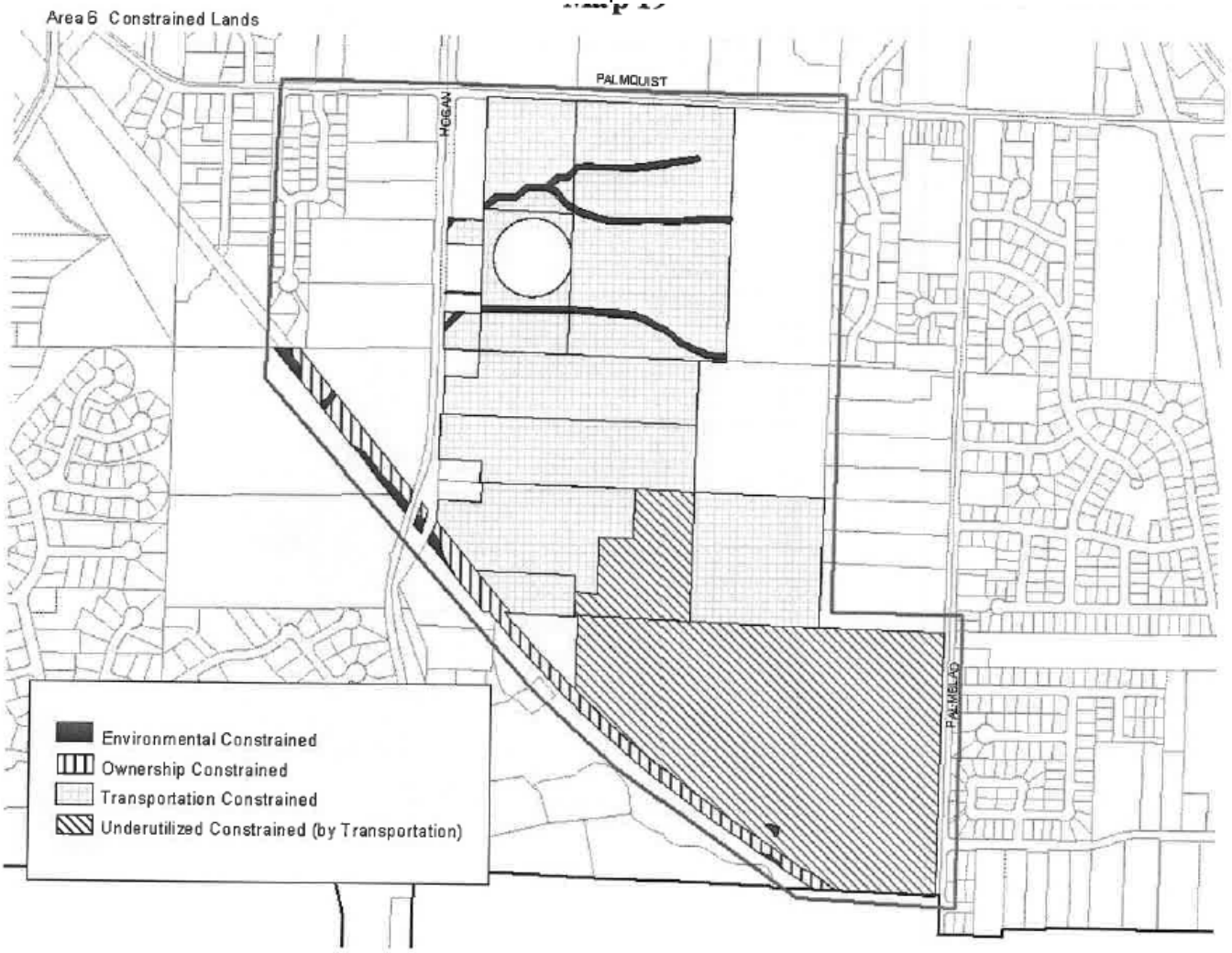


See Map 20 for Area 6 vacant, underutilized and infill lands.

Map 18


Area 6 Zones
PALMQUIST
HOGAN
PALMBLAD
Heavy Industrial
Light Industrial

Map 19


Area 6 Constrained Lands
PALMQUIST
HOGAN
PALMBLAD
Environmental Constrained
Ownership Constrained
Transportation Constrained
Underutilized Constrained (by Transportation)

Map 20

Area 6 Unconstrained

APPENDIX A: TABLES

Area 1 Environmentally Constrained:

RNO	State_ID	Owner	Zone	Acres
R943200530	1N3E201200	Rockwood WaterPe	HI	3.60
R943190610	1N3E191000	AK Media Group	HI	1.71
R943190530	1N3E191100	CtiyofPort. DeptT	HI	0.52
R649814190	1N3E20B1303	Cameron, Leroy	HI	0.04
R649814180	1N3E20B1302	Duck's Moorage	HI	0.68
R781600010	1N3E201406	Catellus Develop	HI	19.29
R943200380	1N3E20B1600	Cameron, Leroy	HI	0.62
R781600850	1N3E20B2002	BFS Retail&Comme	HI	0.08
Total HI area Constrained				**26.53**
R943200400	1N3E20A400	Big Eddy Marina	LI	0.76
R943200670	1N3E20A301	Big Eddy Marina	LI	0.80
R943200490	1N3E20A200	City of Gresham	LI	0.89
R943200600	1N3E20500	Cereghino, Micha	LI	6.83
R943290060	1N3E29B100	The Boeing CO	LI	0.58
R943200480	1N3E20100	Cereghino, Micha	LI	38.85
R943200550	1N3E20DD1200	Cereghino, Micha	LI	1.10
R943200150	1N3E20DD1300	Cereghino, Micha	LI	1.20
R781600700	1N3E20D101	Catellus Develop	LI	0.52
R943200690	1N3E20999	Unknown	LI	0.37
Total LI area Constrained				**51.91**
Total Acres				**78.44**

*A1 has no BP zoned land subject to environmental constraints

Area 1 Land Constrained by Ownership:

RNO	State_ID	Owner	Zone	Acres
R943190650	1N3E19C 1900	Gresham City of	BP	2.10
R649804320	1N3E30B 102	Oregon State of (Dept of Tran	BP	0.95
R943302550	1N3E20A 302	Oregon State of (Dept of Tra	BP	0.40
R943302490	1N3E20A 601	Oregon State of (Dept of Tra	BP	0.72
R943302560	1N3E30A 303	Oregon State of (Dept of Tra	BP	0.22
R943302480	1N3E30AA 201	Oregon State of	BP	0.21
R943301830	1N3E20A 800	Spieker Properties LP	BP	4.29
R943302580	1N3E30A 900	Spieker Properties LP	BP	6.19

RNO	State_ID	Owner	Zone	Acres
R943302420	1N3E30A 700	Oregon State of (Dept of Tran	BP	5.89
R943290290	1N3E29B 700	Spieker Properties LP	BP	3.68
R943290500	1N3E29B 800	Spieker Properties LP	BP	3.82
R943290830	1N3E29B 900	Spieker Properties LP	BP	8.26
R943290550	1N3E29B 1000	Spieker Properties LP	BP	2.66
R943290260	1N3E29B 1100	Spieker Properties LP	BP	0.25
R943290080	1N3E29B 1200	Spieker Properties LP	BP	7.90
Total area zoned BP Owner Constrained				**47.54**
R781600800	1N3E20A 902	Catellus Southshore LLC	HI	17.83
R781600500	1N3E20C 109	Catellus Southshore LLC	HI	3.07
R781600554	1N3E20C 114	Catellus Southshore LLC	HI	0.42
R943200530	1N3E20 1200	Rockwood Water People's	HI	2.41
R943190530	1N3E19 1100	Portland City of (Dept of Tr	HI	0.03
R943302440	1N3E30A 801	Oregon State of (Dept of Tra	HI	4.32
R943291540	1N3E29B 1101	Oregon State of (Dept of Tra	HI	0.44
R943291410	1N3E29B 101	Oregon State of (Dept of Tra	HI	0.42
R943291250	1N3E29B 1300	Boeing Co	HI	10.53
R943291550	1N3E29 501	Oregon State of (Dept of Tra	HI	0.85
R943291430	1N3E29A 401	Oregon State of (Dept of Tra	HI	0.44
R943291310	1N3E29B 701	Oregon State of (Dept of Tran	HI	5.47
R943291440	1N3E29B 1600	Oregon State of (Dept of Tra	HI	1.32
R943291460	1N3E29B 1500	Oregon State of (Dept of Tra	HI	0.07
R943291400	1N3E29A 1400	Oregon State of (Dept of Tra	HI	0.33
R943291350	1N3E29A 1300	Oregon State of (Dept of Tra	HI	0.69
R781600550	1N3E20C110	Catellus Development Corp	HI	4.59
R781600900	1N3E20C112	Catellus Development Corp	HI	18.90
R781600010	1N3E201406	Cattelus Development	HI	13.11
Total area zoned HI Owner Constrained				**85.22**
R943200490	1N3E20A 200	Gresham City of	LI	0.49
R781600750	1N3E20A 901	Catellus Southshore LLC	LI	16.70
R943291390	1N3E29A 1001	Oregon State of (Dept of Tran	LI	0.02
R943290020	1N3E29A 1004	Oregon State of (Dept of Tran	LI	1.15
R943290060	1N3E29B 100	The Boeing Co.	LI	19.81
R781600700	1N3E20D 101	Catellus Development Corp	LI	32.04

RNO	State_ID	Owner	Zone	Acres
R943200100	1N3E20A 599	Metro	LI	0.21
R096400250	1N3E29A 901	Oregon State of (Dept of Tra	LI	0.12
Total area zoned LI owner constrained				**70.54**
Total Acres				**203.30**

Area 1 Constrained by Transportation:

RNO	State_ID	Owner	Zone	Acres
R649785060	1N3E30A 306	Sutton, Raymond V	BP	8.92
R943300030	1N3E30A 200	AK Media Group Inc	BP	6.88
R943290090	1N3E29B 600	Cereghino, Michael J TR ET AL	BP	9.83
Total constrained BP				**25.64**
R649814170	1N3E20B 1301	Cameron, Leroy &	HI	1.91
R649814190	1N3E20B 1303	Cameron, Leroy &	HI	1.45
R943200380	1N3E20B 1600	Cameron, Leroy &	HI	4.66
R781600850	1N3E20B 2002	BFS Retail & Commercial	HI	12.72
Total constrained HI				**20.74**
R943200600	1N3E20500	Cereghino, Michael J TR ET AL	LI	10.90
Total constrained LI				**10.90**
Total Acres				**57.28**

Area 1 Underutilized-Constrained:

RNO	State_ID	Owner	Zone	Acres
R943190470	1N3E19C 1400	City of Gresham	BP	3.86
R649804330	1N3E30B 103	American Honda M	BP	4.62
R943301140	1N3E30AA 200	Burch, Jean Tr.	BP	3.04
Total Acres				**11.51**

Area 1 Infill:

RNO	State_ID	Owner	Zone	Acres
R943302400	1N3E30A 400	SKS Property LLC	BP	0.69
Total BP				**0.69**
R943190610	1N3E19 1000	AK Media Group Inc	HI	0.49
R943200240	1N3E20 1300	Hartung, Glen A TR &	HI	0.00
Total HI				**0.49**
R943200400	1N3E20A 400	Big Eddy Marina	LI	0.54
R943200670	1N3E20A 301	Big Eddy Marina	LI	0.35
Total LI				**0.88**
Total Acres				**2.06**

Area 1 Vacant/Unconstrained:

RNO	State_ID	Owner	Zone	Acres
R943190630	1N3E19 900	SKS Property LLC	BP	6.30
Total BP				**6.30**
R649814180	1N3E20B 1302	Duck's Moorage LLC	HI	1.04
R943200240	1N3E20 1300	Hartung, Glen A TR &	HI	2.09
Total HI				**3.13**
R943290070	1N3E29B 300	Cereghino, Michael J TR ET AL	LI	5.48
R943290040	1N3E29A 300	Cereghino, Michael J TR ET AL	LI	3.01
R943290010	1N3E29A 1000	Sandy Blvd Devel Assoc Inc	LI	20.73
Total LI				**29.22**
Total Acres				**38.65**

Area 1 Underutilized/Unconstrained:

RNO	State_ID	Owner	Zone	Acres
R649785050	1N3E20A 305	Aitchison Family	BP	3.26
R649804340	1N3E30B 104	New Beginnings	BP	66.71
Total BP				**69.97**
R096400800	1N3E29A 900	Boyd Coffee	LI	10.15
Total LI				**10.15**
Total Acres				**80.12**

Area 2 Ownership Constrained:

RNO	State_ID	Owner	Zone	Acres
R943302350	1N3E30A 1000	Oregon State of (Dept of Tran	BP	1.90
R052900040	1N3E30DD 600	Union Pacific Railroad Co	BP	0.48
Total BP				**2.37**
R943290600	1N3E29C 500	Oregon State of (Dept of Tran	HI	0.13
Total HI				**0.13**
R943291230	1N3E29C 1999	Union Pacific Land Resources	LI	0.06
Total LI				**0.06**
Total Acres				**2.57**

Area 2 Underutilized-Constrained:

RNO	State_ID	Owner	Zone	Acres
R943291080		Rockwood Water P	LI	5.09
Total Acres				**5.09**

Area 2 Infill:

RNO	State_ID	Owner	Zone	Acres
R943291110	1N3E29DB 1300	A J Z LLC	HI	0.24
R943291100	1N3E29DB 1200	A J Z LLC	HI	0.28
Total HI				**0.52**
R943301460	1N3E30DC 700	Wheelon, Lorne A	LI	0.59
R943302430	1N3E30CD 300	Wheelon, Lorne A	LI	0.17
R141410010	1N3E29DB 1500	Eastern Western Corporation	LI	0.00
Total LI				**0.76**
Total Acres				**1.28**

Area 2 Vacant/Unconstrained:

RNO	State_ID	Owner	Zone	Acres
R649734960	1N3E30B 1001	Merlo Station Partners	BP	1.71
R943291000	1N3E29C 300	Alexander, Richard C	HI	2.05
R141410050	1N3E29DB 501	HDDI, LLC	HI	2.26
R141410100	1N3E29DB 502	HDDI, LLC	HI	2.28
R742481200	1N3E29DB 400	Aho, Edward D &	HI	2.43
R141410150	1N3E29DB 1400	HDDI, LLC	HI	2.93
R943291560	1N3E29C 601	Applied Industrial Tech Inc	HI	3.21
R943291220	1N3E29C 700	Bearings INC	HI	3.52
R943291220	1N3E29D 102	Eastern Western Corporation	HI	5.00
Total HI				**25.39**
R052900020	1N3E30DD 500	R R Donnelley Norwest Inc	LI	5.03
R943290410	1N3E29D 700	J Frank Schmidt Family Chari	LI	5.15
R943290270	1N3E29D 600	J Frank Schmidt Family Chari	LI	7.33
R649810940	1N3E29D 105	Eastern Western Corporation	LI	7.61
R649810950	1N3E29D 106	Eastern Western Corporation	LI	9.45
Total LI				**34.57**
Total Acres				**59.96**

Area 3 Environmental Constraints:

RNO	State_ID	Owner	Zone	Acres
R943340070	1N3E34C 500	LSI Logic	BP	2.55
Total BP				**2.55**
R943340070	1N3E34C 500	LSI Logic	LI	0.52
Total LI				**0.52**
Total Acres				**3.07**

Area 3 Ownership Constrained:

RNO	State_ID	Owner	Zone	Acres
R943340070	1N3E34C 500	LSI Logic Corp	BP	15.75
Total BP				**15.75**
R649752760	1N3E34C 203	LSI Logic Corp	LI	9.21
R943340360	1N3E34C 100	LSI Logic Corp	LI	8.72
R943340760	1N3E34AC 1600	LSI Logic Corp	LI	1.83
R943340280	1N3E34AC 1500	LSI Logic Corp	LI	1.93
R943340590	1N3E34D 500	LSI Logic Corp	LI	66.92
R943340140	1N3E34D 100	LSI Logic Corp	LI	11.78
R943341560	1N3E34D 101	LSI Logic Corp (Leased	LI	12.07
R943341330	1N3E34D 300	LSI Logic Corp	LI	1.58
R943340180	1N3E34D 400	LSI Logic Corp	LI	2.24
R943341270	1N3E34CD 400	LSI Logic Corp	LI	5.47
R943340430	1N3E34CD 100	LSI Logic Corp	LI	16.27
R943341410	1N3E34CD 401	Church of Jesus Christ of	LI	1.68
R943330540	1N3E33 1301	Fujitsu Microelectronic Inc	LI	2.54
R943340070	1N3E34C 500	LSI Logic Corp	LI	34.46
Total LI				**176.71**
Total Acres				**192.46**

Area 3 Underutilized/Constrained:

RNO	State_ID	Owner	Zone	Acres
R943341530	1N3E34D 201	PGE	LI	5.46
R943340100	1N3E34C 400	LSI Logic Corp.	LI	9.21
Total LI				**14.67**
R932230070	1N3E34C 500	LSI Logic	BP	21.12
Total BP				
Total Acres				**35.79**

Area 3 Infill:

RNO	State_ID	Owner	Zone	Acres
R993042380	1S3E04AB 1600	Thomas, Cam	BP	0.43
R993040020	1S3E04AB 1400	Thomas, Cam	BP	0.87
Total Acres				**1.30**

Area 3 Vacant Land/unconstrained:

RNO	State_ID	Owner	Zone	Acres
R162000050	1N3E34C 1000	Business Properties Investme	BP	1.01
R162000100	1N3E34C 1100	Business Properties Investme	BP	1.03
R162000150	1N3E34C 1300	Business Properties Investme	BP	1.42
R162000200	1N3E34C 1200	Business Properties Investme	BP	1.43
R162000250	1N3E34C 1400	Business Properties Investme	BP	3.69
R993040860	1S3E04AB 1500	Thomas, Cam	BP	1.22
Total BP				**9.79**
R993040970	1S3E04BB 8700	Mc Carty, Lon & Russell	LI	2.74
R993042280	1S3E04BB 8701	Mc Carty, Lon & Russell	LI	1.24
Total LI				**3.99**
Total Acres				**13.77**

Area 4 Environmental Constraints:

RNO	State_ID	Owner	Zone	Acres
R993041220	1S3E04BC 2600	Villareal, Joseph-51% &	BP	0.50
R649780130	1S3E04CB 201	Winters, John D &	BP	3.12
R649780140	1S3E04CB 202	Gresham City of	BP	3.65
R993040160	1S3E04BC 3500	Hunt, Kaare A	BP	0.14
R649785210			BP	0.26
R649785220	1S3E04CB 303	Hansen, George	BP	2.14
				9.83
R731800200	1S3E05DA 200	Glover, William D Et Al	HI	0.35
R895001130	1S3E05DA 2100	Tri-County Metropolitan Serv	HI	0.34
R731800040	1S3E05DA 600	Pacific Power & Light Co	HI	1.51
R993051120	1S3E05D 101	Tri-County Metropolitan Serv	HI	0.96
				3.16
R649770610	1S3E05D 902	Gresham City of	LI	0.37
				0.37
Total Acres				**13.36**

Area 4 Constrained by Quarry:

RNO	State_ID	Owner	Zone	Acres
R233504490	1S3E05AC 1900	Rogers Construction Inc	HI	3.66
R233504570	1S3E05AC 1500	Rogers Construction Inc	HI	5.12
R233504240	1S3E05AC 1400	Rogers Construction Inc	HI	10.19
R233504090	1S3E05AC 1200	Rogers Construction Inc	HI	1.20
R233504040	1S3E05AC 1100	Rogers Construction Inc	HI	1.97
R233504130	1S3E05AC 1300	Rogers Construction Inc	HI	7.03
R233504440	1S3E05AC 1700	Rogers Construction Inc	HI	0.22
R233504550	1S3E05AC 1800	Rogers Construction Inc	HI	0.37
R233504740	1S3E05BD 1400	Rogers Construction Inc	HI	6.75
R233503880	1S3E05AC 700	Rogers Construction Inc	HI	6.39
R233503760	1S3E05AD 3600	Champagne, John R	HI	3.79
R855700010	1S3E05D 200	Morse Bros Inc	HI	10.09
R993050790	1S3E05DA 3600	Morse Bros Inc	HI	3.86
R855703110	1S3E05CA 400	Morse Bros Inc	HI	4.87
R855704010	1S3E05D 400	Morse Bros Inc	HI	5.04
R855704310	1S3E05D 600	Morse Bros Inc	HI	10.08
R855703410	1S3E05CA 500	Morse Bros Inc	HI	4.87
R855703710	1S3E05D 500	Morse Bros Inc	HI	5.04
R993050760	1S3E05D 700	Morse Bros Inc	HI	18.66
R855706010	1S3E05CD 100	Morse Bros Inc	HI	9.74
Total Acres				**118.91**

Area 4 Ownership Constraints:

RNO	State_ID	Owner	Zone	Acres
R993041350	1S3E04CB 2100	Gresham City of	BP	0.19
Total BP				**0.19**
R233505370	1S3E05BD 3100	Multnomah County Transportat	HI	13.13
R993051040	1S3E05AD 1100	Tri-Met	HI	0.02
R233504900	1S3E05BD 1600	Multnomah County Transportat	HI	2.87
R993050120	1S3E05CB 100	Multnomah County Transportat	HI	5.70
R993050130	1S3E05DA 1100	Gresham City of	HI	0.10
R993051120	1S3E05D 101	Tri-Met	HI	0.26
Total HI				**22.09**

RNO	State_ID	Owner	Zone	Acres
R649770610	1S3E05D 902	Gresham City of	LI	2.34
R993051090	1S3E05D 1001	Gresham City of	LI	2.89
R649770620	1S3E05D 903	Pacific Power & Light Co	LI	3.07
R993051120	1S3E05D 101	Tri-Met	LI	0.51
Total LI				**8.81**
Total Acres				**31.09**

Area 4 Underutilized/Constrained:

RNO	State_ID	Owner	Zone	Acres
R993040980	1S3E04BC 2500	Andrews, James	BP	1.55
Total BP				**1.55**
R993050080	1S3E05DA 80	Hong, Laura	HI	3.22
R895001310	1S3E05DA 1300	City of Gresham	HI	1.53
R895001050	1S3E05DA 1800	Tri-Met	HI	0.80
R895001150	1S3E05DA 1700	Tri-Met	HI	0.84
R895001060	1S3E05DA 1900	Tri-Met	HI	0.23
R233506310	1S3E05BC 4000	Mult. Cnty Trans	HI	0.00
Total HI				**6.60**
Total Acres				**8.15**

Area 4 Underutilized:

RNO	State_ID	Owner	Zone	Acres
R895001590	1S3E05DA 3300	Moffet, Robert&Ca	HI	1.00
Total Acres				**1.00**

Area 4 Infill:

RNO	State_ID	Owner	Zone	Acres
R993041220	1S3E04BC 2600	Villareal, Joseph-51% &	BP	0.31
R993040160	1S3E04BC 3500	Hunt, Kaare A	BP	0.65
R993043030	1S3E04CB 301	Hansen, George I &	BP	0.06
Total BP			3	**1.03**
R731800200	1S3E05DA 200	Glover, William D et al	HI	0.13
Total HI			1	**0.13**
R855707750	1S3E05DC 700	Morse Bros Inc	LI	0.15
R855707710	1S3E05DC 900	Helen M Yoerger Family LLC	LI	0.47
Total LI			2	**0.62**
				1.77

Area 4 Vacant/Unconstrained:

RNO	State_ID	Owner	Zone	Acres
R731800480	1S3E05AD 1300	Long, Richard C TR	HI	1.87
R895001430	1S3E05DA 3500	Perletti, Joseph M &	HI	1.65
Total HI				**3.52**
R649785220	1S3E04CB 303	Hansen, George	BP	1.16
Total BP				**1.16**
Total Acres				**4.68**

Area 5 Ownership Constraints:

RNO	State_ID	Owner	Zone	Acres
R993080390	1S3E08D 1400	Portland General Electric Co	LI	27.52
R501000010	1S3E08D 1500	Portland General Electric Co	LI	2.75
R993081930	1S3E08CD 100	Gresham City of	LI	0.31
R501000500	1S3E08D 1600	Portland General Electric Co	LI	3.49
R993081950	1S3E08CD 400	Gresham City of	LI	1.00
R993082130	1S3E08CD 401	Gresham City of	LI	0.91
R993081910	1S3E08CD 4500	Gresham City of	LI	0.95
R993080900	1S3E08D 1700	Portland General Electric Co	LI	36.34
R993080940	1S3E08CD 200	Portland General Electric Co	LI	0.27
R993081940	1S3E08CD 300	Gresham City of	LI	0.25
R993172100	1S3E17BA 100	Portland General Electric Co	LI	2.04
R993172110	1S3E17BA 200	Portland General Electric Co	LI	1.26
Total Acres				**77.08**

Area 6 Environmental Constraints:

Owner	RNO	StateID	Zone	Acres
City of Portland	R993151910	1S3E15DA 200	LI	0.58
City of Portland	R993152000	1S3E15DA 500	LI	0.06
Total LI				**0.65**
City of Portland	R993142140	1S3E14C 2800	HI	0.17
Columbia Brick W	R993140650	1S3E14B 700	HI	0.49
Cooper, Robert	R993140760	1S3E14B 900	HI	0.04
Columbia Brick W	R993142060	1S3E14B 600	HI	1.57
Columbia Brick W	R993142120	1S3E14B 701	HI	0.28
Columbia Brick W	R993140780	1S3E14B 1200	HI	0.08
Mutual Materials	R993140330	1S3E14C 1600	HI	0.05
Total HI				**2.69**
Total Acres				**3.34**

Area 6 Ownership Constraints:

RNO	State_ID	Owner	Zone	Acres
R993142140	1S3E14C 2800	Portland City of	HI	4.07
Total HI				**4.07**
R993152000	1S3E15DA 500	Portland City of	LI	0.06
R993152010	1S3E15DA 600	Portland City of	LI	0.01
R993151910	1S3E15DA 200	Portland City of	LI	1.71
Total LI				**1.77**
Total Acres				**5.84**

Area 6 Transportation Constraints:

RNO	State_ID	Owner	Zone	Acres
R993140190	1S3E14C 900	Columbia Brick Works Inc	HI	9.18
R993140650	1S3E14B 700	Columbia Brick Works Inc	HI	5.45
R993142060	1S3E14B 600	Columbia Brick Works Inc	HI	22.02
R993142120	1S3E14B 701	Columbia Brick Works Inc	HI	4.29
R993140780	1S3E14B 1200	Columbia Brick Works Inc	HI	0.71
R993140760	1S3E14B 900	Cooper, Robert C &	HI	0.51
R993142320	1S3E14B 1001	Bentley, Gregg A & Suzanne N	HI	0.02
R993140270	1S3E14C 1100	Mutual Materials Co	HI	9.29
R993140280	1S3E14C 1400	Mutual Materials Co	HI	8.70
R993140740	1S3E14C 800	Mutual Materials Co	HI	9.99
R993140290	1S3E14C 1500	Mutual Materials Co	HI	1.98
Total Acres				**72.14**

Area 6 Underutilized/Constrained

RNO	State_ID	Owner	Zone	Acres
R993140280	1S3E14C 1400	Mutual Materials	HI	6.40
R993140330	1N3E14C 1600	Mutual Materials	HI	44.64
Total Acres				**51.04**

APPENDIX B: INDUSTRIAL LANDS INVENTORY: GEOGRAPHIC INFORMATION SYSTEMS (GIS) METHODOLOGY & DATA

The GIS component of the industrial lands inventory, for the City of Gresham, was conducted with Environmental System Research Institute's (ESRI) ArcView 3.2 software. Data was provided by the City of Gresham's Land Use Inventory System (LUIS), updated summer 2002. LUIS data is based on Multnomah County tax assessment information and RLIS data that the city receives from Metro. It is then further enhanced by the City of Gresham that uses its Land Management Database to verify information by field checks, digital aerial photography and building permit information.

GIS analysis began by designating six separate areas for analysis. The areas were determined by identifying clusters of industrial zoned land. Major roads, surrounding non-industrial zoning and the city limits determined the area borders.

Once the area designations were determined, all parcels that were currently zoned for Business Park, Heavy Industrial and Light Industrial uses were selected out of the LUIS for each of the delineated areas. Parcels that had active permits on them were removed from the project database and were considered developed. Parcels were then chosen by their land-use designation, as found in the LUIS. All parcels that were currently identified as vacant or in agriculture use were selected as the "vacant parcels" in which the rest of the analysis was based.

The environmental constraints were determined first. Environmental constraints included Water Quality Resource Areas (WQRA) and the Federal Emergency Management Agency's (FEMA) flood plains. Both GIS shape files (WQRA and floodplains) were provided by the City of Gresham. The area of each parcel that was subject to an environmental constraint was subtracted out of the parcel's total area. This was done by digitizing the area of the parcel with environmental constraints and selecting it along with the entire parcel polygon and then using either the "combine features" or "split polygon" functions to subtract or separate the selected environmental features out of the parcel polygons. Digitizing was performed "on screen" with the editing tools included in ArcView at a scale of 1:1200 to 1:500, depending on the size of the feature subject to the digitizing process. Areas that were subject to more than one environmental constraint were digitized with all the environmental constraints merged. This prevented double counting of land with more than one environmental constraint. Area totals were then recalculated. The digitized environmental constraints were either saved or re-digitized and put into separate shape files created for each industrial area. The environmentally constrained area totals were then calculated from the new polygons. Area 4 included a "special" environmental constraint category. The special category includes land that is currently in use as a sand/gravel quarry, but offers future redevelopment potential. The area was given a separate shape file from the rest of the environmentally constrained land found in Area 4.

Once the environmental constraints were deducted from the individual parcel's area, ownership constraints were identified. Ownership constraints included all parcels that were owned by a public entity (utility, City of Gresham, school district, etc.), a church or by a corporation for land banking purposes. LUIS data ownership records were used to identify the parcels. Any parcel that was subject

to environmental and ownership constraints, has an ownership constrained area total with the environmental constraints was subtracted out. This was done to prevent double counting of environmentally constrained land.

Transportation constraints were determined by an analysis of current transportation opportunities for each area and separate shape files were created for them. Transportation constrained land totals were calculated after the removal of environmental constraints and ownership constraints - again this was done to prevent double counting of constrained land areas.

An underutilized lands category was created next. Parcels were selected from the LUIS database that were zoned for industrial use and considered developed. Ortho-photos (flown in 2001, at a 2 ft. resolution) with the LUIS parcel data overlay, were used to visually inspect the developed parcels. Parcels found to have unused areas over an acre, had their unused portions digitized (digitizing was performed "on screen" with ArcView editing tools at a scale of 1:1200 to 1:500). The digitized parcel areas were then subjected to the same constraints (environmental, ownership and transportation) as the vacant parcels. Shape files of underutilized/unconstrained and underutilized/constrained parcels were then created.

All area totals used in the analysis were generated in ArcView and based on the information provided in the City of Gresham's LUIS database. Area acreage totals are subject to slight inaccuracies due to losses and/or gains from the digitizing and conversion (acres were derived by conversions from square feet) processes.

Public Facilities Notes

This inventory included evaluating the six delineated areas of industrial zoned land for potential constraints related to inadequate public facilities. The four public facility categories addressed were transportation, wastewater (sanitary sewage), water, and stormwater drainage. First, comprehensive planning staff reviewed the facility plans of the four city divisions and a special purpose district that plan for and manage these facilities. They are: the Wastewater Services, Water, and Stormwater divisions of the Department of Environmental Services (DES)/City of Gresham; the Transportation Planning Section of the Community and Economic Development Department (CEDD)/City of Gresham; and the Rockwood Water Peoples Utility District (P.U.D.). The recently adopted Transportation System Plan (TSP) served as the facility plan for transportation facilities. The facility plans describe the existing facility system, identify any deficiencies that may limit (constrain) future development opportunities, and propose capital projects that are needed to correct deficiencies. Comprehensive planning staff, in particular, noted those sections of the plans that indicated possible deficiencies in or near the six industrial zoned areas delineated for this study. Next, planning staff interviewed the wastewater, water, and stormwater division managers (or designees) of DES, the Transportation Planning principal planner, and the manager of the Rockwood Water P.U.D. At the interview meetings, the industrial inventory study, a map showing the six delineated areas, and the applicable findings of their particular facility plan were discussed. The managers were then asked to identify any major deficiencies that their facilities could pose to future industrial development within the six areas.

The results of the interviews indicated that with the exception of Areas 1 and 6, there were no major constraints to future industrial development within the six areas due to inadequate public facilities. The managers believed that although there will be a need to extend the local distribution network of their facility as the areas develop or redevelop, this can be done, as it is now, by requiring individual developers as a condition of development to install that part of the local system necessary to serve their project. The deficiencies related to Areas 1 and 6 fall solely within the transportation category. They are discussed in those parts of this study that deals with the two areas.

APPENDIX C

Area 1 Transportation Projects Information

TSP Project Number	Project Description	Acres Constrained	Number of Parcels	Estimated Cost
9	Widen 185th from Sandy Blvd to Marine Drive to accommodate freight increasing traffic	34	4	$3,300,781
110	Extend Riverside Drive to Sandy Blvd, and construct Columbia Slough crossing to improve industrial access	56	2	$4,250,000
58 & 4	Widen 181st and add southbound auxiliary lane; intersection improvements at 181st/I-84. Projects intended to improve freight mobility and freeway access.	58	11	$3,208,625

Area 6 Transportation Information

As indicated in the discussion under Area 6, the vacant and underutilized industrial zoned land in this area is constrained for future development due to inadequate transportation facilities. These relate to the limited capacity of SE Palmquist Rd. and Hogan Rd. to accommodate increased traffic volumes. Both rights-of-way have two narrow travel lanes with no curbs and sidewalks. These deficiencies are addressed in the city's Transportation System Plan (TSP).

The TSP proposes (TSP Project No. 101) to widen SE Palmquist Rd. from SE Hogan to Highway 26. The city designates SE Palmquist as a "collector street." This improvement would widen the travel lanes, add a center turn lane at street intersections, and install curbs/sidewalks. The future widening would improve the roadway to the collector street standard. The estimated cost of the project is $1,399,710.

In regard to Hogan Rd., the TSP (pg. 172) discusses the need for significant improvements within the Hogan Rd. corridor, especially that part between U.S. Highway 26 and the I-84 freeway. Originally, the Mt. Hood Parkway, a proposed freeway, was to be located directly east of Hogan Rd. and provide a north-south linkage between Highway 26 and I-84. However, the parkway project was cancelled because it was determined a freeway type facility was not necessary and that improvements mainly within the existing Hogan Rd. alignment will be sufficient to accommodate projected future traffic levels. The original parkway design included a segment linking Hogan Rd. to Highway 26 just north of the Springwater Trail. The city now intends to undertake a special study, called the "Hogan Corridor

Alignment Study," to identify the options for this southerly connection and to select a preferred alignment. After this study is completed, specific improvement projects with cost projections will then be proposed for the Hogan Rd. corridor.

PART III: ASSESSMENT OF INDUSTRIAL DEVELOPMENT POTENTIAL & PROJECTED LAND NEEDS

INTRODUCTION

This report was done as part of the City's update of its economic development information for industrial and commercial lands found in its comprehensive plan and in order to comply with Statewide Planning Goal 9, Economic Development. Goal 9 stresses the need to" provide adequate opportunities throughout the state for a variety of economic activities vital to the health, welfare and prosperity of Oregon's citizens."

Specifically, OAR 660-009-0015 of Goal 9 calls for cities and counties in Oregon to amend their comprehensive plans to include an "Economic Opportunities Analysis" (BOA) that is described in the rule. Essentially, an EOA has four parts:

1. **Economic Trends Report:** Includes a discussion of national, state and local economic trends. Also identifies the major categories of industrial and commercial uses that could reasonably be expected to expand or locate in the community based on the trends.
2. **Site Requirements Analysis:** Identifies the types of sites that are likely to be needed by the industrial and commercial uses that might expand or locate in the community, based on their site requirements.
3. **Vacant Lands Inventory:** An inventory of vacant and significantly underutilized industrial and commercial zoned lands within the community. Its purpose is to identify the available supply of future developable land.
4. **Assessment of Community's Economic Development Potential:** Estimates the types and amounts of industrial and commercial development likely to occur in the community, based on its economic advantages and disadvantages.

This report, Part III of Gresham's EOA, addresses the above requirement for an assessment of a community's economic development potential in regard to industrial lands. lt also estimates the City's short and long-term industrial land needs. The other parts of Gresham's EOA consists of Part I - a discussion of the economic trends and industrial site requirements, and Part II - an inventory of the City's industrial lands. (Note: An EOA for Gresham's commercial lands has also been completed.)

The information in this report is essentially from Chapters IV and V of "*Gresham Industrial Employment & Economic Study*" by E.D. Hovee & Co.

INDUSTRIAL DEVELOPMENT POTENTIAL

To this point, the City of Gresham EOA has focused on historic trends and current conditions. The analysis now turns toward an assessment of future opportunities.

The focus of this section is on economic development potentials - industrial development that may be available for Gresham years ahead. This analysis identifies industries for which the Portland-Vancouver metro area is likely to be competitive - relative to other regions nationwide.

The entire metro area is viewed as the most appropriate level of analysis, because it functions as an integrated labor market area. While commute times are increasing, workers are still generally able to travel throughout the region for suitable employment.

Regional Competitive Analysis

What follows is an assessment of the ability of the Portland metro area - and more specifically Gresham - to compete with other regions nationwide for industrial and family wage jobs. The assessment identifies the industries for which the Portland-Vancouver metro area has demonstrated a competitive advantage.

Sectors for which the region has an identifiable competitive advantage offer the greatest potential for success in attracting (or retaining) added business investment and employment. In effect, the end result of this analysis is a determination of the industries that will most likely prosper and be best suited for the region.

Key information provided .in this section comes from Minnesota IMPLAN Group's proprietary IMPLAN database and model. Information for 1997 is the most recent available, and is used to analyze current conditions. In some cases, 1990 data is also used in order to identify the underlying structural changes and economic trends since 1990.[i]

A key measuring tool - or benchmark - used to analyze a local industry cluster's performance as compared to the nation is a location quotient (LQ). The LQ measures how competitive Portland metro firms are to other firms operating in the same industry nationally. The LQ is computed as a ratio between the region and the nation.

For example, if the output per worker for the forest products industry is $166,500 in the Portland-Vancouver metro area and $121,300 nationwide, then the LQ would be 1.37 (or $166,500/$121,300). An LQ below 1.00 means the industry could be at a competitive disadvantage compared with other regions. Conversely, an LQ above 1.00 means the industry enjoys a competitive advantage in the Portland metro area.

Regional Employment Concentration

As of 1997, the export-oriented industry clusters in the metro area accounted for over 420,500 jobs. Export-oriented industries are those which tend to ship goods and services outside the Portland metro area, bringing new wealth into the region. This job base has increased by almost 28% since 1990.

While the export-oriented industry cluster job base has been increasing in the region, a similar trend has occurred nationally but at only one-half the Portland metro rate. Between 1990 and 1997, export-oriented industry cluster employment increased by 28% regionally versus 13% nationwide.

Relative to the U.S, it appears that the Portland-Vancouver metro area has a high level of activity in a number of export-oriented industry clusters. However, this is not true across all industry clusters, as the region has a high activity level (or potential competitive advantage) in only 8 of the identified 20 export-oriented industry clusters such as *high technology, distribution, software*, and *professional services*.

The highest level of activity by far occurs within the *high technology* industry. The Portland area's level of concentrated activity, in fact, has increased significantly since 1990. While *software* is a relatively competitive industry, the Portland region has declined in its relative concentration of activity as compared to the U.S. The same is true for the *metals* industry.

The *forest products* industry still experiences a relatively high level of concentrated activity, although its importance to the Portland metro area is waning. While the *aerospace* industry cluster does not yet have a high level of concentration in this region, it has made significant gains since 1990. If recent trends continue, the aerospace industry could become a relatively high activity cluster regionally within the 20-year forecast timeframe.

The fastest-growing export-oriented industry cluster in the Portland-Vancouver metro area is *high technology*, which has gone from 30,250 jobs in 1990 to almost 50,170 in 1997. Other rapidly growing industry sectors include *plastics, professional services*, and *software*.

The *distribution* sector is currently the region's largest export-oriented industry cluster, providing over 108,000 jobs. However, the job base associated with this cluster has increased by only 26% since 1990 - a rate slightly slower than all export-oriented industries as a whole.

Overall, employment has increased slightly faster for the metro area's export industries than for non-export sectors. Average wage levels for export sectors exceed other sectors by 22%; however, wage growth in the locally-oriented sectors was more rapid in the 1990s. The strongest export-oriented wage performers in the 1990s were *cultural arts* (including creative services) and *high technology*.

Figure 1. Concentration of Portland-Vancouver Metro Area's Employment Base
Source: E.D. Hovee & Company using Minnesota IMPLAN Group's IMPLAN database and model.

Industry Clusters	PDX Metro Area		Average Wage		United States		Job LQ* Chg.	
	1997 # of Jobs	% Chg. 1990-97	1997	% Chg. 1990-97	1997 # of Jobs	% Chg. 1990-97	1997	1990-97
Export-Oriented Industries:								
Aerospace	2,369	+5.3%	$72,200	+19.0%	531,043	-31.1%	0.63	+0.17
Agriculture	31,264	-2.4%	$20,200	-32.7%	5,430,209	+3.3%	0.81	-0.14
Apparel	4,728	-5.9%	$25,800	-2.2%	1,590,589	-17.6%	0.42	+0.01
Biotechnology	14,202	+35.1%	$24,400	-12.0%	2,856,438	+37.0%	0.70	-0.09
Distribution	108,055	+26.2%	$47,100	-3.7%	11,222,117	+12.1%	1.36	+0.02
Environmental Services	830	+41.2%	$51,800	+12.7%	167,005	+37.1%	0.70	-0.05
Fisheries	156	+41.8%	$25,600	-27.0%	122,420	-11.7%	0.18	+0.06
Forest Products	16,912	-17.1%	$43,300	-10.1%	2,688,647	+11.9%	0.89	-0.44
Graphic Communications	14,579	+17.5%	$36,800	-9.4%	2,039,958	+3.2%	1.01	+0.03
High Technology	50,169	+65.8%	$66,100	+26.4%	2,968,080	-5.7%	2.39	+0.89
Machinery	11,101	+24.9%	$47,000	-2.8%	1,477,736	+9.1%	1.06	+0.04
Metals	20,343	+0.7%	$46,200	-8.9%	2,579,238	+2.1%	1.12	-0.13
Misc. Secondary Manufacturing	4,813	+7.8%	$26,200	-6.4%	745,020	+6.5%	0.91	-0.08
Plastics	5,878	+68.4%	$34,000	-12.1%	1,076,796	+9.8%	0.77	+0.22
Professional Services	57,696	+58.5%	$38,300	-22.3%	7,243, 412	+28.7%	1.13	+0.11
Software	16,599	+57.5%	$67,200	+12.9%	1,867,337	+80.6%	1.26	-0.34
Stone, Clay, Glass Mfg	3,608	+11.5%	$34,900	+9.8%	587,990	-6.0%	0.87	+0.06
Transportation Equipment	8,801	+9.5%	$53,400	-9.7%	1,317,946	+6.6%	0.94	-0.07
Tourism	35,586	+50.2%	$21,800	+7.3%	5,200,483	+23.3%	0.97	+0.09
Cultural Arts**	12,889	+10.6%	$31,700	+147.7%	1,049,348	+42.1%	1.74	-0.2
All Export-Oriented Industry Clusters	**420,578**	**+27.5%**	**$42,500**	**-0.9%**	**52,761,812**	**+12.5%**	**1.13**	**+0.03**
Local-Oriented Industries								
Metal Mining	15	-88.3%	-	-	59.147	-0.5%	0.04	-0.30
Health Services	59,674	+26.5%	$43,100	-15.0%	9,649,883	+18.2%	0.87	-0.03
Retail	185,676	+28.8%	$18,600	-11.4%	26,325,392	+16.1%	1.00	+0.00
Chemicals	1,502	-13.7%	$59,900	-0.0%	815,740	-10.7%	0.26	-0.04

Industry Clusters	PDX Metro Area		Average Wage		United States		Job LQ* Chg.	
	1997 # of Jobs	% Chg. 1990-97	1997	% Chg. 1990-97	1997 # of Jobs	% Chg. 1990-97	1997	1990-97
Other Business & Financial Services	95,771	+10.9%	$30,500	+22.4%	13,732,696	+16.4%	0.99	-0.16
Other Mining	1,196	+41.0%	$40,100	-58.0%	728,907	-11.0%	0.23	+0.07
Telecommunication Services	9,402	+43.6%	$57,600	-13.3%	1,412,938	+15.4%	0.94	+0.10
Energy Utilities	3,587	+5.9%	$93,100	+34.7%	551,362	-18.2%	0.92	+0.13
Construction	80.056	+27.9%	$44,000	+28.5%	9,996,363	+8.1%	1.13	+0.07
Education	21,979	+62.6%	$16,800	-25.0%	3,048,307	+36.4%	1.02	+0.07
Personal & Social Services	17,238	+112.6%	$20,400	-36.3%	2,320,238	+43.4%	1.05	+0.27
Local Employment Sector	100,195	+64.8%	$19,300	-14.8%	12,171,481	+35.5%	1.16	+0.11
Government	108,310	+1.7%	$43,900	+61.5%	22,356,078	+9.1%	0.69	-0.13
Unclassifiable	5,968	+15.4%	$9,000	+6.9%	1,233,000	-10.5%	0.68	+0.10
All Local-Oriented	**690,569**	**+26.2%**	**$30,300**	**+7.4%**	**104,401,532**	**+15.6%**	**0.94**	**-0.01**
All Industry Clusters	**1,111,147**	**+26.7%**	**$34,900**	**+3.5%**	**157,163,344**	**+14.6%**		

Note: *LQ means Location Quotient. NA means the industry did not exist in 1990. All figures are preliminary and subject to change.
**Includes social organizations and some creative services.

Industry Productivity & Value Added

Regionally, Portland metro export-oriented industry workers have a relatively high productivity rate (measured as annual value of output produced per worker). In 1997, the average export- oriented industry worker in the metro area produced $128,000 of output, 5% above comparable national rates.

Industries exhibiting relatively high rates of productivity include *forest products, high technology, distribution*, and *transportation equipment*. Productivity in these industries relative to the nation has also increased in recent years.

The *high technology* industry, with one of the highest productivity rates as compared to the U.S., has improved its productivity position second fastest among this region's export-oriented industries. Average output per worker in this sector is nearly $255,000 - nearly double the productivity of all the metro area's export sectors combined.

As compared to the nation, the Portland-Vancouver metro area's export-oriented industries (taken together), also produce a level of value added output above the nation's.[ii] Out of the 20 export-oriented industry clusters, six clusters out-performed the U.S.

In terms of productivity, the *transportation equipment* industry has a relatively low level of value added produced in the region. However, overall output is high at $324,000 per worker.

If sectors such as transportation are targeted for further economic development, then increasing the amount of value added by existing companies, and targeting new companies that will also produce value added above national levels, should be emphasized. This might be accomplished, for example, by encouraging more vendors that serve this sector to locate in the Portland metro area.

Figure 2. Average Productivity by Industry for Portland-Vancouver Metro Area (vs. U.S.)
Source: E.D. Hovee & Company using Minnesota IMPLAN Group's database and model.

Industry Clusters	1997 Location Quotient (LQ)			% of Output Value-Added			
	Output/ Worker	1997	Chg. 1990-97	1997		Chg. 1990-97	
				PDX	US	PDX	US
Export-Oriented Industries:							
Aerospace	$160,400	0.75	-0.14	41.7%	31.5%	-14.8%	20.5%
Agriculture	$114,000	0.87	+0.15	34.4%	30.9%	-7.5%	+0.2%
Apparel	$101,800	0.94	+0.00	33.7%	34.1%	-5.4%	-1.1%
Biotechnology	$55,300	0.66	+0.05	52.2%	55.5%	-1.6%	+5.8%
Distribution	$121,000	1.07	+0.08	62.9%	61.4%	-10.7%	-7.7%
Environmental Services	$102,900	0.76	-0.18	77.7%	76.8%	+37.1%	+38.8%
Fisheries	$76,200	0.73	-0.50	86.3%	50.2%	+67.9%	+35.2%
Forest Products	$166,500	1.37	+0.09	39.4%	37.1%	+0.1%	+2.4%
Graphic Communications	$105,500	0.93	+0.04	45.5%	48.1%	-9.2%	-2.4%
High Technology	$254,900	1.20	+0.28	44.3%	39.3%	+1.9%	-8.7%
Machinery	$171,500	0.98	-0.01	35.4%	36.9%	-11.2%	-9.4%
Metals	$163,300	0.91	-0.16	41.8%	38.7%	+10.5%	+0.1%
Misc. Secondary Manufacturing	$108,000	0.63	-0.02	36.7%	41.9%	-4.2%	-5.9%
Plastics	$157,200	0.85	+0.05	29.0%	31.5%	-24.0%	-14.2%
Professional Services	$66,100	0.78	-0.03	63.6%	68.2%	-9.0%	+0.9%
Software	$108,400	0.95	+0.01	67.8%	68.8%	-8.2%	-0.4%
Stone, Clay, Glass Mfg	$130,100	0.84	-0.02	35.0%	36.9%	-4.6%	-9.9%
Transportation Equipment	$324,100	1.07	+0.15	20.7%	25.2%	-14.7%	-11.0%
Tourism	$53,700	1.03	+0.18	61.9%	61.5%	-7.4%	-5.5%
Cultural Arts	$87,100	1.05	+0.49	37.4%	41.4%	-7.7%	-4.3%
All Export-Oriented Industry Clusters	**$128,800**	**1.05**	**+0.14**	**48.5%**	**46.9%**	**-3.5%**	**-2.1%**

Industry Clusters	1997 Location Quotient (LQ)			% of Output Value-Added			
	Output/ Worker	1997	Chg. 1990-97	1997		Chg. 1990-97	
				PDX	US	PDX	US
Local-Oriented Industries							
Metal Mining	$122,600	0.64	-0.10	9.9%	49.3%	-34.2%	+14.5%
Health Services	$72,700	1.07	+0.06	63.3%	63.6%	-9.1%	+3.6%
Retail	$40,900	1.10	+0.15	71.1%	70.7%	-4.1%	-0.8%
Chemicals	$291,100	0.55	-0.22	40.4%	29.9%	+10.9%	-2.7%
Other Business & Financial Services	$152,100	0.99	+0.15	71.9%	72.1%	-0.5%	-1.2%
Other Mining	$113,300	0.43	-0.78	59.0%	57.7%	-14.3%	-13.5%
Telecommunication Services	$221,700	0.91	-0.05	58.2%	58.5%	-19.5%	-17.4%
Energy Utilities	$479,300	1.15	+0.17	77.5%	77.1%	+25.7%	27.4%
Construction	$99,400	1.14	+0.20	47.4%	43.8%	+10.1%	+5.5%
Education	$37,200	0.90	+0.02	47.1%	53.6%	-4.4%	+6.2%
Personal & Social Services	$38,500	1.01	-0.39	54.4%	52,7%	-30.2%	-15.5%
Local Employment Sector	$40,000	1.00	-0.01	59.8%	59.5%	+2.3%	+3.5%
Government	$60,400	1.22	+0.30	85.3%	90.9%	+3.7%	+0.4%
Unclassifiable	$40,900	2.18	+0.88	100.0%	100.0%	-	-
All Local-Oriented	**$74,000**	**1.01**	**+0.13**	**66.8%**	**66.2%**	**+1.5%**	**+2.1%**
All Industry Clusters	**$94,700**			**57.4%**	**57.4%**	**-1.5%**	**-0.2%**

*Note: Output worker is in the $1,000,000. NA means the industry did not exist in 1990. All figures are preliminary and subject to change.

Export Orientation, Procurement & Multipliers

Traditionally, to be deemed "export-oriented," an industry must export at least 50% of its output. Taken as a whole, the region's export-oriented industries should export almost 50% of their output to communities outside the Portland-Vancouver metro area.

However, not all of this region's export-oriented industries are actually "export-oriented." In fact, 13 of 20 industry clusters reviewed appear to be actually export-oriented, with the other seven showing very low proportions of their output being sold or delivered outside the region.

The group does not quite meet the 50% benchmark because the *distribution* industry - the region's largest employment sector - in the Portland area is mostly locally focused.

Industries exporting over 95% of their output outside the metro area include: *aerospace, plastics, miscellaneous secondary manufacturing*, and *metals*. The other eight industries showing a relatively

high amount of export orientation include *agriculture, fisheries, forest products, graphic communications, high technology, machinery, stone, clay and glass*, and *transportation equipment*.

The *high technology* industry is the only export-oriented industry that also purchases a relatively high portion of goods and services locally for production. In general, industries exhibiting a relatively high local procurement rate tend to be non export-oriented industries.

Because the *high technology* industry purchases a substantial amount of goods and services locally, it also tends to have the greatest overall impact on the region's economy. For every job, another 2+ jobs are supported within local industries. The total jobs multiplier is over three - comprising the job directly in the industry plus the other two stimulated in other sectors of the region's economy.

Other export-oriented industries that tend to have a relatively high economic impact in terms of supporting employment include *aerospace, distribution, forest products, high technology, machinery, metals, plastics, software, stone, clay and glass manufacturing*, and *transportation equipment*.

The *aerospace, fisheries, metals, miscellaneous secondary manufacturing, plastics, stone, clay and glass*, and *transportation equipment* industries are the only export-oriented industries that are "export-oriented" with a relatively low local procurement rate. If the region targets these industries for further economic development, more attention could be given to linking these firms with other firms in the metro area, or to targeting specific firms that could supply goods and services to these industries.

Figure 3. Export Orientations, Local Procurement, & Economic Impact by Industry Cluster
Source: E.D. Hovee & Company using Minnesota IMPLAN Group's database and model.

Industry Clusters	Output Exported		1997 Local Procure.	Economic Multipliers (1997)		
	1997	Chg. 1990-97		Output	Income	Jobs
Export-Oriented Industries:						
Aerospace	98.9%	+42.5%	1.7%	1.71	1.60	2.31
Agriculture	59.7%	+54.2%	35.0%	1.64	2.25	1.80
Apparel	12.2%	+7.1%	30.2%	1.64	1.90	1.74
Biotechnology	2.3%	-0.7%	48.5%	1.79	1.71	1.56
Distribution	24.5%	-14.6%	94.1%	1.68	1.68	2.02
Environmental Services	0.6%	-0.2%	92.1%	1.58	1.47	1.75
Fisheries	56.1%	+51.5%	5.8%	1.30	1.34	1.30
Forest Products	71.6%	+34.0%	31.8%	1.65	1.92	2.20
Graphic Communications	60.9%	-4.0%	34.4%	1.69	1.76	1.86
High Technology	53.1%	+34.4%	82.8%	1.80	2.10	3.05
Machinery	73.4%	+46.4%	26.9%	1.65	1.89	2.24
Metals	92.5%	65.2%	6.8%	1.56	1.75	2.06
Misc. Secondary Manufacturing	93.1%	+72.5%	4.5%	1.63	2.02	1.82

Industry Clusters	Output Exported		1997 Local Procure.	Economic Multipliers (1997)		
	1997	Chg. 1990-97		Output	Income	Jobs
Plastics	96.0%	+94.9%	1.8%	1.60	2.05	2.08
Professional Services	12.4%	-12.7%	75.7%	1.82	1.57	1.70
Software	36.2%	-23.3%	75.6%	1.84	1.55	2.10
Stone, Clay, Glass Mfg	81.0%	+72.9%	11.6%	1.69	1.98	2.02
Transportation Equipment	80.6%	+74.9%	15.3%	1.59	2.31	3.06
Tourism	19.7%	+13.9%	78.3%	1.70	1.67	1.48
Cultural Arts	53.4%	+8.0%	79.9%	1.98	2.03	2.06
All Export-Oriented Industry Clusters	**48.3%**	**+21.5%**				
Local-Oriented Industries						
Metal Mining	1.4%	-6.7%	3.9%	1.44	3.07	1.56
Health Services	0.0%	-4.5%	90.4%	1.81	1.54	1.75
Retail	16.0%	+8.9%	92.8%	1.62	1.52	1.32
Chemicals	15.0%	+8.1%	17.2%	1.46	1.84	2.52
Other Business & Financial Services	33.3%	-3.7%	66.5%	1.47	1.89	1.85
Other Mining	35.5%	-53.7%	13.7%	1.44	1.47	1.60
Telecommunication Services	37.2%	+11.5%	55.1%	1.65	1.98	2.79
Energy Utilities	17.7%	+17.5%	93.2%	1.26	1.52	2.51
Construction	21.4%	+12.8%	100.0%	1.74	1.65	1.94
Education	3.2%	-8.2%	81.3%	1.94	1.83	1.42
Personal & Social Services	11.5%	-3.3%	100.0%	1.83	1.61	1.40
Local Employment Sector	31.1%	+0.4%	80.9%	1.76	1.62	1.41
Government	16.8%	-26.5%	96.3%	1.66	1.36	1.52
Unclassifiable	31.6%	-68.4%	36.2%	1.15	1.27	1.08
All Local-Oriented	**22.5%**	**-0.9%**				
All Industry Clusters	**35.8%**	**+10.8%**				

*Note: NA means the industry did not exist in 1990. All figures are preliminary and subject to change.

Target Industries

The preceding analysis has provided a number of measures by which the relative performance of export-oriented industry clusters can be assessed for regional suitability. This economic study is intended to carry the discussion one step further - to identify sectors most suitable for business development and recruitment activities. The last step in the analytical process is to focus on those firms which may be best suited for location in Gresham.

Framework for Target Industry Strategy

An overview framework for evaluating potential export-oriented industries is predicated on the assessment of the *current and changing competitive position* of various industry clusters in the region as compared to the nation. As indicated by the chart on the following page, four distinctive *quadrants* of target industry potential can be identified:

- *Strong and growing* sectors represent industries that have an existing competitive presence in the metro area, exceeding the national average (as measured by employment). For these sectors, the region's competitive position not only is above average, but has increased in recent years (from 1990-1997).
- In contrast, *weak and declining* industries are those that currently have below average employment representation; the region's competitive position for these sectors also diminished even further between 1990 and 1997.
- A *mature* industry is one that currently maintains a strong and competitive position; however, the industry's competitive share of the national employment base has declined since 1990.
- Finally, *emerging* sectors are those that historically have maintained a below average competitive position, but with gains in competitive employment share experienced since 1990.

Figure 4. The Portland-Vancouver Metro Area Target Industry Matrix
Source: E.D. Hovee & Company using IMPLAN input-output data sets, February 2001.

Change in Competitive Position (LQ)		Emerging	Strong & Growing
	Growing (+)	Stone, Clay, Glass (0.87) Plastics (0.77) **Tourism (0.97)** Fisheries (0.18) Aerospace (0.63) Apparel (0.42)	**High Technology (2.39)** **Distribution (1.36)** Machinery (1.06) Graphic Communications (1.01) Professional Services (1.13)
		Weak & Declining	Mature
	Declining (-)	Agriculture (0.81) Biotechnology (0.70) **Transportation Equipment (0.94)** Misc. Secondary Manufacturing (0.91) Environmental Services (0.70) **Forest Products (0.89)**	Software (1.26) Metals (1.12)
		Weak (<100%)	Strong (>100%)

Note: **Boldface** print items represent sectors with above average productivity. Percentages in parenthesis indicate emplo9yment location quotient (LQ) or competitive position relative to the nation.

In reviewing these matrix classifications, the natural inclination might be to pursue only "strong and growing" industries as representing the best bets for business and industrial development in Gresham. After all, these have been proven winners - at least in recent years.

However, a more diversified *portfolio approach* is suggested for consideration. This could involve targeting selected industry segments from each quadrant with tailored strategies for:

- Repositioning of the *mature* software and metals sectors - with emphasis on innovation, value added diversification, improved work force skills, and entrepreneurship.
- Strategic business development – targeted to specific industry driven needs of *strong and growing* sectors.
- Targeted business recruitment and workforce training – for selected *emerging* industries such as aerospace, plastics and tourism.
- More limited effort involving highly targeted assistance for individual firms with unusually strong performance potential- for *weak and declining* sectors.

Screening Criteria

To assist in narrowing the field to a recommended portfolio of target industries, five sets of screening criteria have been applied to develop a recommended list of target industry sectors:

1. Current and changing *competitive position* of the industry- relative to the nation (as illustrated by the previous target industry matrix). The recommended target should either have a strong competitive position currently or demonstrate improvement in its competitive standing in recent years (since 1990).
2. *Worker productivity and change in productivity*- as quantifiable indicators of workforce suitability. To be recommended as a target industry, existing regional firms should either demonstrate high productivity comparable to other firms nationally or a rate of productivity increase more rapid than has been experienced by this industry sector nationwide.
3. *Percent of output value-added*- with the percent greater than 50% indicating a majority of an industry's output value being created within the regional economy.
4. *Employment multiplier and/or forecast employment growth* - with the multiplier indicating the *ripple effect* that the sector provides as a stimulus to other supporting employment activity in the region. To be recommended as a target industry, the sector should demonstrate a relatively high employment multiplier.[iii]
5. *Wage levels* including changes over time - relative to other industries in the metro area. A target threshold of preference is given for jobs *either* paying at least the region-wide average annual wage of $34,900 or with positive wage growth from 1990-1997.

The application of this threshold analysis for the Portland metro region is illustrated by the chart on the following page.

Figure 5. Screening Target Industry Potentials

Source: E.D. Hovee & Company using IMPLAN, Oregon Employment Department, and U.S. Bureau of Labor Statistics data sets.

Industry Clusters	Employment LQ		Productivity LQ		% Value Added	Jobs Molt.	Avg. Wage		LQ		% Value Added	Job Molt.	Avg. Wage	Total
	1997	1990-97	1997	1990-97			1997	1990-97	Emp	Prod.				
Export-Oriented Industries:														
Aerospace	0.63	**+0.17**	0.75	-0.14	41.7%	**2.31**	**$72,200**	**+19.0%**	**1**	0	0	1	1	3
Agriculture	0.81	-0.14	0.87	**+0.15**	34.4%	1.80	$20,200	-32.7%	0	1	0	0	0	1
Apparel	0.42	**+0.01**	0.94	**+0.00**	33.7%	1.74	$25,800	-2.2%	1	1	0	0	0	2
Biotechnology	0.70	-0.09	0.66	**+0.05**	**52.2%**	1.56	$24,400	-12.0%	0	1	1	0	0	2
Distribution	**1.36**	**+0.02**	**1.07**	**+0.08**	**62.9%**	**2.02**	**$47,100**	-3.7%	**1**	1	1	1	1	5
Environmental Services	0.70	-0.05	0.76	**-0.18**	**77.7%**	1.75	**$51,800**	**+12.7%**	0	0	1	0	1	2
Fisheries	**0.18**	**+0.06**	0.73	-0.50	**86.3%**	1.30	$25,600	-27.0%	1	0	1	0	0	2
Forest Products	0.89	-0.44	**1.37**	**+0.09**	39.4%	**2.20**	**$43,300**	-10.1%	0	1	0	1	1	3
Graphic Communications	**1.01**	**+0.03**	0.93	**+0.04**	45.5%	1.86	**$36,800**	-9.4%	1	1	0	0	1	3
High Technology	**2.39**	**+0.89**	**1.20**	**+0.28**	44.3%	**3.05**	**$66,100**	**+26.4%**	1	1	0	1	1	**4**
Machinery	**1.06**	+0.04	0.98	-0.01	35.4%	**2.24**	**$47,000**	-2.8%	1	0	0	1	1	3
Metals	**1.12**	-0.13	0.91	-0.16	41.8%	**2.06**	**$46,200**	-8.9%	**1**	0	0	1	1	3
Misc. Secondary Manufacturing	0.91	-0.08	0.63	-0.02	36.7%	1.82	$26,200	-6.4%	0	0	0	0	0	0
Plastics	0.77	+0.22	0.85	**+0.05**	29.0%	**2.08**	$34,000	-12.1%	**1**	1	0	1	0	3

Industry Clusters	Employment LQ		Productivity LQ		% Value Added	Jobs Molt.	Avg. Wage		LQ		% Value Added	Job Molt.	Avg. Wage	Total
	1997	1990-97	1997	1990-97			1997	1990-97	Emp	Prod.				
Professional Services	**1.13**	**+0.11**	0.78	-0.03	**63.6%**	1.70	**$38,300**	-22.3%	1	0	1	0	1	3
Software	**1.26**	-0.34	0.95	**+0.01**	**67.8%**	**2.10**	**$67,200**	**+12.9%**	1	1	1	1	1	**5**
Stone, Clay, Glass Mfg	0.87	**+0.06**	0.84	-0.02	35.0%	**2.02**	$34,900	**+9.8%**	1	0	0	1	1	3
Transportation Equipment	0.94	-0.07	**1.07**	**+0.15**	20.7%	**3.06**	**$53,400**	-9.7%	0	1	0	1	1	3
Tourism	0.97	**+0.09**	**1.03**	**+0.18**	**61.9%**	1.48	$21,800	**+7.3%**	1	1	1	0	1	4
Cultural Arts	**1.74**	-0.73	**1.05**	**+0.49**	37.4%	**2.06**	$31,700	**+147.7%**	1	1	0	1	**1**	4
All Export-Oriented Industry Clusters	**1.13**	**+0.03**	**1.05**	**+0.14**	48.5%		**$42,500**	-0.9%	1	1	0	1	1	4

Note: **LQ** denotes location quotient or competitive position relative to the entire nation. An LQ of over 100% exceeds the national average. Items which meet threshold criteria are noted with **boldface** type. In the five columns at the far right, 1 indicates the criterion is met. Otherwise 0 is shown. The last column indicates the number of threshold criteria met. Sectors meeting four or five of the threshold criteria are indicated in **boldface.**

From this list, three tiers of target industry activities are recommended:

Tier 1 sectors are export-oriented industries meeting *all five sets of threshold criteria*. Sectors included are:

- Distribution
- Software (includes custom software and information services)

Tier 2 consists of export-oriented sections *meeting four of the five sets of criteria*:

- High Technology
- Plastics[iv]
- Tourism
- Creative Services[v]

Tier 3 consists of sectors currently performing not as strongly on the evaluation matrix, *meeting only three or fewer of the criteria*. However, the following sectors are recommended from for selective inclusions as a separate category due to Gresham's economic interests, potentially pivotal I-84 location to serve markets east and west, or some success at previous recruitment regionally:

- Aerospace
- Biotechnology
- Environmental Services
- Graphic Communications
- Professional Services
- Machinery

- Metals
- Stone, Clay, Glass Manufacturing
- Transportation Equipment

Gresham's Competitive Position

The final step in this economic development assessment is to consider Gresham's current and prospective competitive position. This assessment occurs within the context of the regional and national economy - but focuses on unique competitive attributes of Gresham and the East Multnomah County area.

In effect, the competitive advantage assessment assumes Gresham will compete with other major employment centers throughout the region for the industries that consider the Portland- Vancouver metro area a great place to do business.

As is the case with the regional analysis, the method applied for Gresham is the employment location quotient (LQ). When applied locally, the LQ is simply a ratio between Gresham and the region measuring the relative concentration of jobs for a specific industry within Gresham compared to the concentration of jobs for that sector regionally.

An LQ of 1.00 means Gresham is equally competitive as other employment centers for that industry. A LQ greater than 1.00 means Gresham has a stronger competitive position, and an LQ less than 1.00 means Gresham is currently less competitive and will have to reposition itself (or rely on other factors such as quality of life or education) to be considered as a competitive business location.

The assessment of Gresham's competitive position relative to the region identified Gresham as having a competitive advantage in 13 of the 31 industry clusters. Due to Boeing's presence, the aerospace cluster is the sector for which Gresham has had the strongest competitive position. While landing another major aerospace manufacturer is questionable, attracting industry vendors such as those that may want to locate closer to a Boeing plant could represent a viable economic development strategy.

Just because Gresham has not yet shown a clear competitive advantage in a particular industry - such as distribution or creative services - the community is not necessarily precluded from pursuing those sectors if so desired. Unique opportunities may be presented that fit within Gresham's economic vision. In these instances, it may make sense to pursue the seemingly less competitive sector, defining or building a new competitive niche for Gresham's future.

For example, Rivergate, Airport Way, and Wilsonville are considered the Portland metro area's major distribution centers. Even with Albertson's, McCabe's Quality Foods, and Foamex, Gresham currently has a relatively low competitive position (LQ of 0.38) within that sector.

However, other firms, such as UPS, have been considering locating an East Multnomah County distribution center in Gresham. Once secured, these types of investments would strengthen the community's competitive position for such previously underserved sectors of the local economy.

Figure 6. Gresham's Existing Competitive Advantage (Relative to the Region)
Source: E.D. Hovee & Company

	Industry Cluster	LQ
Above Average	Aerospace	14.14
	Fisheries	6.31
	Apparel	3.90
	Misc. Manufacturing	2.97
	Other Retail	1.48
	Personal & Social Services	1.42
	Other Business & Financial Services	1.24
	Machinery	1.22
	Graphic Communications	1.19
	Tourism	1.11
	Government & Education	1.08
	Health Services	1.06
	High Technology	1.01
Below Average	Plastics	0.91
	Film & Video	0.87
	Environmental Services	0.84
	Software	0.66
	Metals	0.64
	Forest Products	0.59
	Creative Services	0.55
	Chemicals	0.43
	Telecommunication Services	0.42
	Distribution	0.38
	Agriculture	0.24
	Stone, Clay, Glass Manufacturing	0.22
	Professional Services	0.22
	Energy Utilities	0.12
	Transportation Equipment	0.03
	Biotechnology	0.02

When compared with the region's list of competitive industry clusters, Gresham matches up with 6 of the 13 identified regional strengths. None of Gresham's strongest sectors appear on the region's Tier 1

list. However, because of Gresham's high concentration of *high-tech* employment, there also may be an opportunity to attract software, creative services, or similar companies.

Gresham could take advantage of its high quality of life and proximity to Mt. Hood Community College, creating business opportunities for these emerging sectors that may not otherwise be readily apparent. Fostering a more entrepreneurial environment would also assist Gresham in shaping a more diverse and sustainable economic future.

Figure 7. Portland Metro & Gresham Industry Clusters by Tier
Source: E.D. Hovee & Company using employment data provided by Metro and IMPLAN.

Tier 1	Tier 2	Tier 3
Distribution	**High Technology**	Professional Services
Software	Plastics	**Machinery**
	Tourism	Transportation
		Aerospace
		Graphic Communications
		Environmental Services
		Biotechnology
		Creative Services

Note: Tier 1 industries are those for which Portland metro area scored above the nation in all five criteria. Tier 2 industries scored above the nation in four of five criteria. Tier 3 industries offer niche opportunities. **Boldface** items indicate current Gresham competitive advantage.

Location Criteria

When businesses are making site location decisions, several factors are evaluated in choosing the right location. Traditionally, companies were mainly concerned with their cost of doing business, having adequate services, and access to a sizable labor pool. However, today's business environment is much more complex and competitive on an increasing array of fronts. Companies now consider a greater range of factors such as a user-friendly permitting process, strong infrastructure backbone (including telecommunications), and education (both current labor force and training opportunities).

Many of today's businesses are also concerned with worker retention and, therefore, assess a community's cost of living and its quality of life. For emerging industries, having access to capital as well is an extremely important consideration, as these businesses have a more difficult time getting established.

Figure 8. Emerging Industries in the New Economy
Source: E.D. Hovee & Company.

	Typical Industry	Emerging Industries
Factors Affecting Business Location	Tax Rates & Incentives	"Cost-of-Doing-Business Measures"
	Labor Costs	Quality of Life
	Building Costs	Cost of Living
	Energy Costs	Access to Educated Workforce
	Capital Costs	Education/Training Opportunities
	General Business Climate	Rapid & Friendly Permitting
	Adequate Utility Service	Strong Infrastructure
	Access to Labor	Access to Venture Capital
	Rail & Freeway Access	Existing Network of Suppliers
		Access to Major Airport

Gresham's desire to attract new industry means it will have to make sure it stacks up well against other communities in the region. Gresham already has an advantage over other communities in the metro area because it has an established network of businesses (including high-tech), continuing education/ training opportunities (Mt. Hood Community College), is a gateway to the Columbia Gorge, Mount Hood and other natural amenities, and offers relatively quick airport access (both to Troutdale and Portland International).

Gresham's desire to become the home for healthy emerging industries and to be a participant in the new economy means that it will need to develop the appropriate business environment. Economic development experts have identified four basic attributes of creating a *Technopolis*:

- *Abundance of technology*- developing a strong information (or digital) network.
- *Technical know-how* -Access to a local pool of scientists, engineers, and technicians, as well as access to national pool.
- *Venture capital* - Linking local businesses with local and national venture capitalists (or other financial sources).
- *Entrepreneurial know-how* - creating an environment that attracts talented business people with a strong entrepreneurial spirit.

These are attributes that obviously extend beyond issues of local land use practices including zoning and development codes. They are addressable and in *synch* with the vision expressed by the *Mayor's Economic Development Action Plan*. These attributes can also be reinforced through supportive industrial development policy and standards.

EMPLOYMENT & INDUSTRIAL LAND NEED SCENARIOS

The combination of past economic trends, Gresham's current industrial land inventory, and future economic potential suggest not one, but *multiple paths* as possibilities for the community's economic future. Which path Gresham follows will depend both on market driven activity and the community's policy response:

- What are the industries of the future?
- Which industries represent the *best fit* for Gresham?

Recognizing the multiple market and policy choices possible, this analysis addresses the range of options that might be realized.

Consequently, a series of alternative job and land demand forecast scenarios have been prepared for consideration by the City of Gresham for the Goal 9 portion of its periodic review process. The job target and land absorption Gresham actually realizes will depend on the community's competitiveness and vision for its future.

Metro Employment Densities

The first set of forecasts uses *Metro defined employment density (jobs/acre)* targets against six alternative job scenarios:

- **City Capacity Analysis**- reflects the 1994-2017 Metro job growth target (as previously evaluated by the City of Gresham).
- **Maintenance of Current Share & Distribution** - assumes that industrial-related jobs maintain today's current share (28.3%) of all future Gresham employment and of a similar industrial mix (distribution); light and heavy industrial lands each capture 36% of new industrial jobs and business parks retain the residual 27%.
- **Maintenance of Current Share with Changing Distribution** - maintains current share of all jobs but the mix of industrial jobs shifts more towards light industrial (44%) and business park (33%); heavy industrial captures a reduced 23%.
- **Growing Share with Current Distribution** - assumes industrial-related jobs make up an increasing share of Gresham employment (capturing 31% of job growth) but with a similar job mix as today.
- **Growing Share with Changing Distribution** - assumes industrial-related jobs increase their share, as well as light industrial and business park jobs accounting for a greater proportion of industrial job growth.

- **Growing Share with Changing Distribution** - Jobs/Housing Target - assumes a growing share of industrial jobs with a greater mix towards light industrial and business park, but also with Gresham achieving a 1.7 jobs/housing ratio (equal to the regional average) over the next 20 years.

Under these alternative employment scenarios, Gresham could be expected to add another 6,430-8,860 industrial jobs over the 20-year planning horizon. This yields a need for 345-604 acres of industrial land under Metro employment densities. Industrial land need is least (at 345 acres) with the City Capacity Analysis. Demand is greatest (at nearly 604 acres) if the analysis assumes moving toward regional jobs-housing parity and a growing share of industrial jobs (albeit with a trend toward more BP/LI jobs).

Figure 9. Industrial Employment/Land Scenarios at Metro Densities
Source: E.D. Hovee & Company.

Forecast Scenario	Total Jobs	Jobs/Acre	Land Demand
City Capacity Analysis*			
Business Park (BP)	3,657	27.8	131.5
Light Industrial (LI)	1,782	14.5	122.9
Heavy Industrial (HI)	990	10.9	90.8
All Industrial Land Jobs	**6,429**	**18.6**	**345.2**
Maintenance of Current Share & Distribution			
Business Park (BP	1.850	27.8	66.5
Light Industrial (LI)	2,447	14.5	168.8
Heavy Industrial (HI)	2,421	10.9	222.1
All Industrial Land Jobs	**6,718**	**14.7**	**457.4**
Maintenance of Current Share with Changing Distribution			
Business Park (BP	2,230	27.8	80.2
Light Industrial (LI)	2,949	14.5	203.4
Heavy Industrial (HI)	1,538	10.9	141.1
All Industrial Land Jobs	**6,718**	**15.8**	**424.7**
Growing Share with Current Distribution			
Business Park (BP)	2,027	27.8	72.9
Light Industrial (LI)	2,682	14.5	185.0
Heavy Industrial	2,653	10.9	243.4
All Industrial Land Jobs	**4,363**	**14.7**	**501.3**
Growing Share with Changing Distribution			
Business Park (BP)	2,445	27.8	87.9
Light Industrial (LI)	3,232	14.5	222.9

Forecast Scenario	Total Jobs	Jobs/Acre	Land Demand
Heavy Industrial (HI)	1,686	10.9	154.7
All Industrial Land Jobs	**7,363**	**15.8**	**465.5**
Growing Share with Changing Distribution – Jobs/Housing Target			
Business Park (BP)	2,440	27.8	87.8
Light Industrial (LI)	3,229	14.5	222.7
Heavy Industrial (HI)	3,194	10.9	293.0
All Industrial Land Jobs	**8,863**	**14.7**	**603.5**

*Note: City Capacity Analysis was conducted to demonstrate that Gresham could potentially meet Metro job targets at minimum, local development standards.

Current Gresham Employment Densities

A second set of alternative land demand forecasts has been prepared to identify the amount of industrial land that would be needed to achieve each employment forecast at employment *densities currently realized in Gresham*.

Densities of employment (measured as jobs per acre) that are on the ground today are considerably below the Metro density targets. If new development continued to occur at existing densities, the amount of land required to accommodate future job growth increases to a range of about 590-940 acres. The difference between the two alternative land forecasts is in the range of 240-340 acres above what is indicated with Metro's target density figures.

Figure 10. Industrial Employment/Land Scenarios at Realized Densities
Source: E.D. Hovee & Company

Forecast Scenario	Total Jobs	Jobs/Acre	Land Demand
City Capacity Analysis			
Business Park (BP)	3,657	13.9	262.8
Light Industrial (LI)	1,782	8.9	199.8
Heavy Industrial (HI)	990	8.0	124.5
All Industrial Land Jobs	**6,429**	**11.0**	**587.1**
Maintenance of Current Share & Distribution			
Business Park (BP	1.850	13.9	133.0
Light Industrial (LI)	2,447	8.9	274.4
Heavy Industrial (HI)	2,421	8.0	304.4
All Industrial Land Jobs	**6,718**	**9.4**	**711.8**
Maintenance of Current Share with Changing Distribution			
Business Park (BP	2,230	13.9	160.3
Light Industrial (LI)	2,949	8.9	330.7
Heavy Industrial (HI)	1,538	8.0	193.4

Forecast Scenario	Total Jobs	Jobs/Acre	Land Demand
All Industrial Land Jobs	**6,718**	**9.8**	**684.4**
Growing Share with Current Distribution			
Business Park (BP)	2,027	13.9	145.7
Light Industrial (LI)	2,682	8.9	300.8
Heavy Industrial	2,653	8.0	333.5
All Industrial Land Jobs	**4,363**	**9.4**	**780.0**
Growing Share with Changing Distribution			
Business Park (BP)	2,445	13.9	175.7
Light Industrial (LI)	3,229	8.9	362.4
Heavy Industrial (HI)	1,686	8.0	212.0
All Industrial Land Jobs	**47,363**	**9.8**	**750.1**
Growing Share with Changing Distribution – Jobs/Housing Target			
Business Park (BP)	2,440	13.9	175.4
Light Industrial (LI)	3,232	8.9	362.1
Heavy Industrial (HI)	3,194	8.0	401.6
All Industrial Land Jobs	**8,863**	**9.4**	**939.1**

The implication of these land demand forecasts is that Gresham, within its existing city limits, could find itself running out of industrial land much faster than anticipated. The additional 240- 340 acres of required industrial land under the second set of alternative projections equates to *more than* the entire amount of unconstrained vacant buildable industrial land available currently zoned within the City of Gresham.

Comparing Industrial Land Demand with Supply

The estimated 1,218 acres of industrial land identified as either vacant or underdeveloped appears, at first glance, to be more than adequate to accommodate demand. This is true even at the maximum acreage need of just under 940 acres over the 20-year planning horizon.

However, upon closer review, the adequacy of the existing inventory can be called into question for two primary reasons:

- If underdeveloped parcels are excluded, the remaining inventory of existing vacant land drops to 975 acres - just enough acreage to meet the maximum 20-year need scenario.[vi]

- Of greater and more immediate concern is the extremely limited amount of buildable land that is currently vacant and unconstrained- estimated at only 117 acres. (Note: Unconstrained land is free of environmental restrictions as well as transportation and ownership constraints.) This *ready-to-build* acreage represents less than a four-year supply of readily developable property if the maximum industrial land need materializes. Even in the case of the minimum industrial land demand scenario, the vacant, unconstrained inventory provides only a 10-year supply - less than one-half of the minimum land demand forecast for the 20-year planning period.

Gresham's Land Demand Target & Future Supply

It is the goal of the City over the next 20 years to increase its jobs/housing ratio, currently at 1.17 jobs per household, so that it is on par with the regional average of 1.70 jobs per household. Reaching this target will require approximately 900 to 1,000 acres of developable industrial zoned land. This need corresponds to the last land demand target ("Growing Share with Changing Distribution-Jobs/Housing Target") shown on Figure 10. This target also reflects that manufacturing jobs will slightly increase its share of Gresham's job base, from its current 27% share of Gresham's jobs to a 31% share, as well as a shift to more light industrial and business park type uses.

Long term (6-20 yrs.), Gresham intends to meet this target primarily by developing the Springwater community planning area with industrial uses. (The Springwater planning project is described under the local trends section of Part 1 of the EOA.) This area was recently added to Gresham's UGB and consists of 1,575 acres. Although Springwater will include some housing and commercial services as well as protected natural resource areas, the greater majority of it will be set aside for industrial development.

Gresham can meet its short term (1-5 yrs.) industrial development land need through the 117 acres of vacant unconstrained land that is left in its established industrial districts. In addition the first Springwater industrial lands are anticipated to be available for development in 2005. In the last 5 years (1999-2003), Gresham has developed about 150 acres of industrial zoned land. So if this consumption rate continues, the above two sources should provide enough developable land to meet the short term demand.

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[i] The IMPLAN database provides information for 528 industries. These industries are aggregated into 34 industry clusters. Employment sectors are clustered into industries that have similar activities (i.e., produce related goods, perform similar services, or naturally link to one another). This section's analysis concentrates on 20 of the 34 industries, as these tend to (or could) have a high export orientation and provide high wage jobs. The same definitions used for the Portland-Vancouver metro area have been applied to the U.S. in order to accurately assess the region's performance against comparable nationwide activities.

[ii] Value added is important because it measures the amount of local processing (or value added) to goods produced and/or services provided by the industry. The higher the level of value added, the more wealth being created within the local economy.

[iii] For this analysis, the threshold for a high employment multiplier is set at 2.00, that is, at least two jobs created directly and indirectly in the region for every direct new job in the sector considered.

[iv] Even though the Plastics industry only met three of the five criterion, its average wage is almost equal to the region-wide average for all sectors; therefore, Plastics is included as part of the Tier 2 industries.

[v] Creative services is a portion of what has been defined in the industry cluster analysis as cultural arts.

[vi] Availability of much of the underdeveloped inventory hinges on cessation of existing gravel extraction and brickyard activities. It is not certain how much of this land could become available for reuse during the 20-year planning time period for Goal 9 compliance.