Economic Opportunities Analysis

of the Medford Comprehensive Plan

Medford Planning Department
City of Medford, Oregon
www.medford.ci.or.us

Prepared by
Johnson Gardner LLC
www.johnson-gardner.com
and CSA Planning, Ltd
www.csaplanning.net

TABLE OF CONTENTS

I. INTRODUCTION 1

II. ECONOMIC HISTORY 2

Figure 1: Medford Employment by SIC Code 5

III. REVIEW OF NATIONAL, REGIONAL AND LOCAL TRENDS 7

A. NATIONAL TRENDS 7

Figure 2: Real Gross Domestic Product and Inflation (2002-2007) 7

Figure 3: National Employed Level and Retractionary Periods (1980-2007) 8

Figure 4: U.S. Civilian and Payroll Employment (1980-2007) 8

Long-Term Industry Specific Trends 9

National Outlook 9

National Summary 9

B. REGIONAL & LOCAL TRENDS 10

Demographics 10

Employment 11

Figure 5: Year-over-Year Employment Growth, Jackson County (2002-2007) 11

Figure 6: Employment Growth by Industry, Jackson County (2002-2007) 12

Wages 12

Figure 7: Average Annual Wage Growth (2001-2006) 13

Other Factors for Economic Development Potential 13

Competitive Position and Target Industry Opportunities 16

Regional & Local Summary 17

IV. EMPLOYMENT FORECAST 18

A. INTRODUCTION 18

B. ANTICIPATED REGIONAL GROWTH 18

Figure 8: Employment Projections, Region 8 (Jackson & Josephine Counties) 19

Figure 9: Covered Employment by Industry, Medford UGB* (2006) 19

Figure 12: Local Capture of Jackson County Employment, Medford UGB (2006) 20

Figure 11: Medford Share of Jackson County Employment 20

Figure 10: Conversion of Covered Employment to Total Employment, Medford UGB (2006) 21

Figure 13: Conversion to 2008 Base Year Employment Estimate, Medford UGB 21

Figure 14: Employment Forecast, Medford UGB (2008-2028) 23

V. EMPLOYMENT LAND NEEDS ANALYSIS AND REQUIRED SITE TYPES 24

A. INTRODUCTION 24

B. SUMMARY OF INDUSTRIAL AND COMMERCIAL LAND NEED FINDINGS 24

Figure 15: Projected Aggregate Need for Commercial and Industrial Land (Net Buildable Acres) ... 25

Figure 16: Projected Acres and Number of Required Sites by Type 26
Figure 17: Projected Aggregate Need for Commercial and Industrial Land (Gross Acres) 27
C. INDUSTRIAL & OFFICE LAND NEED METHODOLOGY 27
Demand for Office Building Space 27
Demand for Office Commercial Land 27
Figure 18: Cumulative Office Land Demand by Scenario 28
Demand for Industrial Building Space 28
Demand for Industrial Land 28
Figure 19: Cumulative Industrial Land Demand by Scenario 29
D. RETAIL COMMERCIAL LAND NEED METHODOLOGY 29
Household Growth Projections 29
Estimate Medford City Per-Household Retail Spending 29
Figure 20: Average Household Expenditures on Retail Goods Medford UGB, 2008 30
Estimate Future City of Medford Resident-Driven Retail Sales 30
Demand for Retail Commercial Space 30
Demand for Retail Commercial Land 30
Figure 21: Cumulative Retail Commercial Land Need by Scenario, Resident Supported 31
Region/Visitor Spending Projections 31
E. REQUIRED SITE TYPE DESCRIPTIONS 31
Office Development Pattern Types 33
Commercial Retail Development Pattern Types 35
Industrial Development Pattern Types 38
Campus/Institutional Development Pattern Types 41
Unique Development Pattern Types: 43
F. PROJECTED NUMBER OF SITES DEMANDED 44
Figure 22: Existing Developed Sites in Medford's UGB 46
VI. EXISTING GLUP LAND SUPPLY AND SUITABILITY ANALYSIS 50
A. INTRODUCTION 50
B. ANALYSIS OF EXISTING VACANT LAND SUPPLY BY EXISTING GLUP MAP 51
Figure 24: Vacant and Potentially Redevelopable Sites in Medford's UGB 52
Figure 25: Vacant Lands by Major Development Pattern Type 54
Figure 26: Vacant Lands by Major Development Pattern Type 55
Figure 27: Summary of Site Acreage by Existing GLUP Map 56
Analysis of Constrained Sites 56
Figure 28: Site Constraints Map and Summary Table 57
Figure 29: Summary of Constrained Sites Two Acres or Larger 58
Value Analysis of Existing Vacant Land Supply by Existing GLUP Map 59
Figure 30: Mean Value per Acre by GLUP Map Designation 59
Figure 31: Vacant Commercial Lands Value per Acre 60
Figure 32: All Employment Lands in Medford's UGB 60
Figure 33: Vacant Industrial Lands Value per Acre 61
Figure 34: All Industrial Lands in Medford's UGB 62
Supply versus Demand for Vacant Sites Under Existing GLUP 62

Figure 35: Supply and Projected Demand for Sites over the Planning Horizon 63
Figure 36: Supply and Projected Demand for Acreage over the Planning Horizon 64
Figure 37: Reconciliation of Short Term Supply and Projected Demand 65
Ownership Pattern Analysis *66*
Redevelopment Analysis *67*
Figure 38: Summary of The Analysis Of Redevelopment Sites Larger than 5 Acres 69
Figure 39: Sites Demanded Versus Supply of Sites by Development Pattern 72
Figure 40: Reconciliation of Demand and Supply by Development Pattern Type 73
Plan Amendment Response to Deficits *73*
Figure 41: Approximate Final Acreage Reconciliation If Contemplated GLUP Descriptions Changes and Map Amendments were Enacted 74
VII. SUMMARY CONCLUSIONS GOALS AND POLICIES 76
A. ECONOMIC OPPORTUNITIES CONCLUSIONS 76
B. EMPLOYMENT LAND DEMAND AND SUPPLY CONCLUSIONS 77
VIII. TECHNICAL APPENDICES 79
TECHNICAL APPENDIX A 79
TECHNICAL APPENDIX B 80
TECHNICAL APPENDIX C 81
TECHNICAL APPENDIX D 82
TECHNICAL APPENDIX E 82
TECHNICAL APPENDIX F 83
TECHNICAL APPENDIX G 83
TECHNICAL APPENDIX H 84
TECHNICAL APPENDIX I 85
TECHNICAL APPENDIX J 86
TECHNICAL APPENDIX K 87

I. INTRODUCTION

The purpose of the Economic Element of the Medford Comprehensive Plan is to determine the City's economic goals, policies and land needs concerning commercial and industrial development within City limits and the Urban Growth Boundary.

E.D. Hovee and Company prepared for the City an Economic Opportunities Analysis for 2003-2004 that examines the past, present, and future economic opportunities for the City and surrounding region. This analysis is contained in the *"Medford Economic Market Analysis"* March 2003 and the *"Medford Commercial and Industrial Land Supply Goal 9 Supplement"* December 2004, collectively referred to as the "Hovee Report." In October 2006, the Hovee Report was incorporated into the Medford Comprehensive Plan Economic Element as an appendix and utilized to update and supplement the conclusions and policies of this document. In January 2007, the new DLCD Economic Development Rule (OAR 660-009) went into effect. In October 2007, the City of Medford contracted with Johnson-Gardner to extend the Hovee Report analysis and update the balance of the Economic Element to comply with the most recent DLCD rule.

Section II of the Element presents an economic history of the region. Sections III, IV and V provide an Economic Opportunities Analysis that includes: an analysis of significant national, state, and local trends; a forecast of employment and demand for employment lands; and an inventory of vacant and underutilized lands. Section VI presents an Assessment of Community Economic Development Potential. This section includes an analysis of Medford's competitive position and target industries. It examines the City's comparative advantages and disadvantages for economic development and reports on labor factors that influence current and future economic life. Hovee Report research and findings were integral in updating this Element. The final section, Section VII of the Economic Element, outlines the City's economic goals and policies that will guide the City through the twenty-year planning period (2008-2028).

This element is intended to satisfy the requirements of the Oregon Administrative Rules, Chapter 660, Division 9.

II. ECONOMIC HISTORY

Medford's economic history is one highlighted by the search for gold, the development of major natural resource-based industries involving forest products and agriculture and the evolution of the area as a major tourism center. As early as 1850, the settlement potential of the fertile land in the Rogue River Valley was recognized by the forty-niners on their way to the California gold fields. Soon thereafter, gold was discovered in Jackson County itself. The mining boom that resulted gave way eventually to the more stable economic bases of agriculture and lumber, which remain important elements in Medford's livelihood today.

One of the most exciting periods in Jackson County history was the gold mining boom. The area's "gold rush" lasted from 1850 to 1856. In 1851, the area's three houses provided residences for pilots of the ferryboats that carried early pioneers across the Rogue River. In 1852, gold placers were discovered. The settlers' population in the Valley numbered 28 in January 1852, but increased to 150 by March of that year. With the arrival of summer in 1852, the local population had soared to include 1,000 miners who were new residents of the Rogue Valley.

Jacksonville was the center of trade activity for the area's economy during this period. The prosperity that accompanied the gold rush was apparent. In 1884, a Wells Fargo agent testified to having forwarded $10,000,000 worth of gold from the company's Jacksonville office during the preceding two decades. He estimated that at least that much more had gone out of the area in other ways.

Meanwhile, some settlers began planting crops and moved to take advantage of the bountiful resources of the surrounding timberlands. In 1852, the area's first lumber mill was built. By 1854, there were two flour mills in operation, processing wheat and other grains planted by those hoping to make a living supplying the miners' demand for basic staples.

In 1855, Jackson County was the most populous and wealthiest county in the region of the Oregon Territory that was four years away from statehood. The boom prosperity brought by mining was destined to be short-lived, however. Marked declines in annual mining income and shipments were apparent as early as 1860. As miners left the area, the economy began to change. Without the market created by the miners residing in the area, the local demand for wheat fell. The farmers' markets deteriorated because of the lack of transportation to export goods to other regions on the West Coast. Farmers recognized that maintaining their incomes would require cultivation of higher-priced crops. They replaced wheat with apple and pear orchards, many of which were planted in the following two decades.

By 1884, the Medford settlement had grown into a community of some note in the region. According to an account written that year, there were about 40 wooden buildings, and the foundations of a brick building "of considerable size" were laid. Up until this time, Jacksonville continued to serve as the trade center for the Rogue Valley. When the railroad came to Southern Oregon, however, Jacksonville was bypassed. The decision was made to create a formally-established town at the middle ford of Bear Creek. The town was named by a railroad engineer from Medford, Massachusetts. Thus, in 1884, the town of Medford was incorporated, although residents of Jacksonville continued to refer to their new neighbor as "Chaparral City." Medford was to become the outbound shipping point for the agricultural and forest products of the Rogue River Valley. During the next few years, the community began to take shape. By 1885, a

school, a newspaper and a railroad station were in operation. In 1888, the city sold $5,000 worth of bonds to finance a water main, sewerage, fire apparatus, and the construction of a reservoir.

Another boom in growth and development began in Medford in the Gay Nineties and lasted until the Depression. In 1890, 967 persons lived in the town. By 1906, nearly 3,000 people lived in what had become the home of many wealthy easterners eager to invest in pear orchards. The same year marked the first effort to secure an integrated irrigation system for the area. Along with the completion of the Pacific and Redwood Highways, these milestones marked the direction Medford had taken after the gold boom ended.

In 1909, the Medford Commercial Club (forerunner of the Chamber of Commerce) published a brochure urging young men at universities on the East Coast to come west to a valley of fertile soil, beautiful scenery and wildlife, mountains with gold, copper and coal and "a contented, progressive people." Farmers claimed to clear $500 - $1,500 an acre yearly. Meanwhile, families on their way to California were urged by Union Pacific men to first consider the Rogue River Valley.

With the completion of the Gold Ray Dam in 1903, the city's inhabitants were assured a reliable supply of electricity. Rogue River Electric merged with Siskiyou Power and Light in 1913 to become the predecessor to Pacific Power & Light. In 1910, Main Street was paved. Medford pears were bringing premium prices in the markets of New York and London. The many orchards planted in response to these prices caused a short-term oversupply of pears. More export markets were developed and pear farming flourished. The shipping of fruit, in turn, created a demand for wooden boxes, and the expanding population needed housing. Pine and fir mills were built to provide the needed lumber. In the early 1920s, lumber businessmen arrived from the south with established lumber manufacturing businesses. Among them was James Owen, who established the Owen-Oregon Lumber Company, the predecessor of Medford Corporation.

The twenties roared in Medford as elsewhere. The population was nearly 11,000 by 1930, a 92 percent gain in 10 years. In 1929, the 3,660 carloads of pears that were shipped represented more than a fourfold increase during the decade. A total of $12,000,000 worth of various products was shipped in 1929, including 4,000 carloads of lumber. By this time, 21 fruit packing and exporting firms and five modern cold storage plants were in operation. There were 11,700 acres of pear trees in the district that year, which accounted for four-fifths of the world's production capacity of Bosc pears.

The county seat had been moved to Medford from Jacksonville in 1926. An airport serving the City and Rogue Valley was completed in 1930, one of the first in the state. Medford was advertised in travel brochures as the heart of the Southern Oregon recreation district, within a few hours' drive of Crater Lake, Diamond Lake, Crescent City and numerous other tourist attractions. Throughout the 1920s, the community prospered. Medford had four major banks with deposits of more than $7 million. The City also boasted five modern theaters, four with talking picture equipment. The town had established a reputation for being progressive, with plenty of diversions to attract both wealthy residents and tourists.

The lumber business did well during the post-World War I building boom of the early 20s, but construction activity slowed by 1927. In addition, the premium prices of the past ten years had created more competition within the industry. Difficulties in maintaining and expanding markets were compounded by the stock market crash in 1929, marking a sharp decline in the housing demand . The fruit industry suffered as well during the Great Depression. Harry and David, one of the area's major fruit processors, rescued their operation in 1933 by creating a new market for their products with gift packages. This proved to be a lucrative solution. To this day, Harry and David is

, world famous for its gift packages.

The onset of World War II brought another surge of prosperity and technology to the lumber industry. Several new factors began to affect the forest products business, including infusion of federal timber holdings in the lumber supply by 1944. At the same time, railroad logging became outdated and supplanted by the increased use of logging trucks. The market for lumber continued to be strong after the war as the demand for housing, stifled during the war, rose. For the first time this demand exceeded supply because many areas had been over cut during the war. Despite short term difficulties, the lumber and wood products industry continued its dominance of the area's manufacturing sector.

Between 1940 and 1958, the population in Medford again doubled to more than 23,500. A brochure published by the Jackson County Chamber of Commerce in 1958 listed Medford's attributes as a growing city. Effective buying income in the City was $1,717 per capita, compared to a $1,601 state average. New construction projects were underway to remedy a slight housing shortage. Bank deposits totaled nearly $51 million and loans exceeded $22.7 million. The community was in a stage of development that would allow the business and commercial sector to establish the growth patterns that persist today.

During the 1960s, the lumber industry was forced to diversify its production base to more fully utilize the available timber. Plywood mills sprang up and a growing volume of wood chips was exported to Japan. The emergence of new industries also began to influence the community during this time. Firms from the urban centers of California, the Mid-West and the Atlantic seaboard states began to recognize that the Pacific Northwest offered a desirable quality of life and could still provide ready access to western markets. This attraction drew many new firms of varying size and production to the region. The Rogue Valley shared in the Northwest's popularity and became a favorable locale for immigrants.

Tourism, strong on the heels of national prosperity, drew increasing numbers of visitors to the area. Completion of the Interstate through Medford 1964 further enhanced this trend creating more jobs for local residents. Today, tourism continues as a key element of the economies of Medford and the Rogue Valley.

In the past, the commercial sector of the community's economy functioned mainly in support of the manufacturing and industrial sectors. This changed during the 1960s. As with the nation as a whole, rising incomes set the stage for a decade of growth in trade and commerce, particularly in the service industries. By 1970, Medford had established a solid position as the commercial center for the Rogue Valley, as well as a broader market area that reached into northern California and north toward the Willamette Valley.

By the end of the 1960s, the evolution of the area economy away from its historical roots was solidly underway. The wood products industry, however, again brought a boom to the area. This occurred as a result of low interest rates which encouraged a strong long-term demand for housing nationwide. A 40 percent growth in the population of Jackson County during the 1970s further fueled the demand for goods and services, but the nationwide recession that began in 1979 exposed the area's heavy reliance on the timber industry. The early 80s saw a high unemployment rate, and people began to leave the area in search of jobs. Only continued growth in the retired population, drawn by the excellent health care services and quality of life, kept the area from losing population between 1979 and 1982.

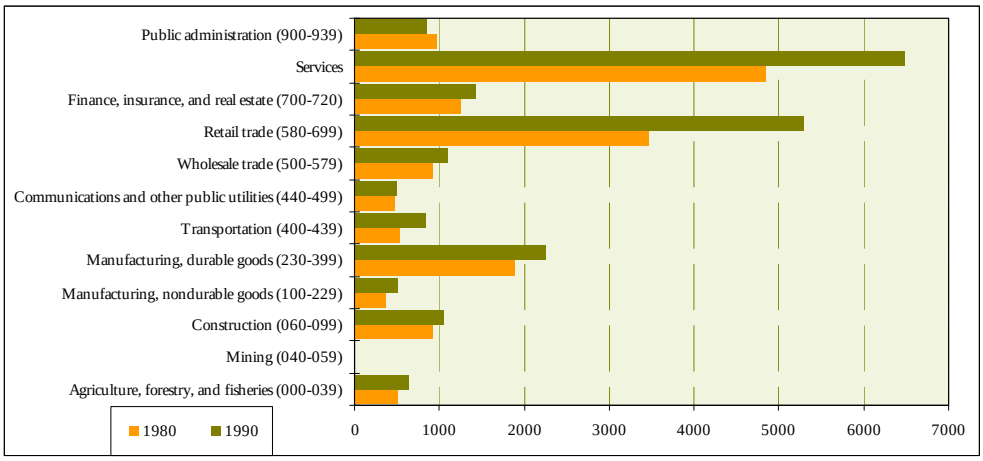
While the timber industry was still very significant, the 1980s was the first decade of fundamental

transition to a diversified economy. Medford's service and retail trade sectors experienced substantial growth. This transition was fueled, in part, by population growth and by Medford's growing role as a commercial, service and medical hub for a market of more than 500,000 people in Northern California and Southern Oregon. Medford began to establish itself as the region's retail trade hub with the construction of the Rogue Valley Mall. The financial sectors began to strengthen. Healthcare services were a growth industry that naturally clustered in Medford around the only two regional hospitals in the seven-county service area. Other professional services also concentrated in Medford for access to government and other professional services. Specific growth in key local companies and industries also set the stage for growth in the 1990s, including:

- *Sabroso Company completed the transition from a production company to a specialty processing company.*
- *Lithia Motors developed its corporate model for the retail auto dealership business.*
- *The Rogue Valley Manor was a pioneering company in the development of the Continuing Care Retirement Community concept that is now prevalent throughout the United States.*
- *The founding of the transportation brokerage Attaway Transportation.*

Figure 1 compares City of Medford employment in the 1980 Census to employment in the 1990 Census by the now obsolete SIC Code system. The comparison graph clearly depicts the large gains in Retail Trade and Services during this time period underscoring the structural changes occurring in Medford's economy during this period.

FIGURE 1: MEDFORD EMPLOYMENT BY SIC CODE



In the 1990s, the state and nation experienced significant expansion in information technology industries and healthcare industries and continued decline of the timber industry. In 1992, the area's historically dominant employer Medco closed its timber mill and ongoing timber operations in the area. Yet Medford benefited directly from the growth in healthcare because Medford is home to two regional hospitals. Asante Health Systems is now the largest employer in Jackson County. Information technology growth supported the development of many transportation brokerage

companies. Medford also experienced growth in the instruments manufacturing sector. The instruments sector is a cluster of niche industries that provide high tolerance measuring and monitoring devices to businesses and government.

Medford also solidified its position as the region's retail trade center in the 1990s with the development of the Crater Lake Shopping Center and the South Gateway area. The Crater Lake Shopping Center is located along Highway 62 where large format retail companies such as Lowe's, Costco, and Wal-Mart have operated successfully for many years. The South Gateway area is home to Fred Meyer, Winco Foods, and several franchise hotels.

Medford experienced the growth of several local companies into national and international leaders during that decade. Lithia Motors was offered to the public and grew to become one of the nation's largest retail auto dealership companies. Sabroso Company expanded into an international leader in fruit concentrates production. The Rogue Valley Manor was the catalyst in the creation of Pacific Retirement Services which now owns and/or manages retirement communities throughout the western United States. In the early 1990s, Attaway Transportation experienced financial problems despite a sound business model. Its collapse turned out to be fortunate economically, however, because the company had effectively trained a group of entrepreneurs with specialized skills. These entrepreneurs have since spawned a number of transportation brokerage companies that operate as a niche business cluster within the City.

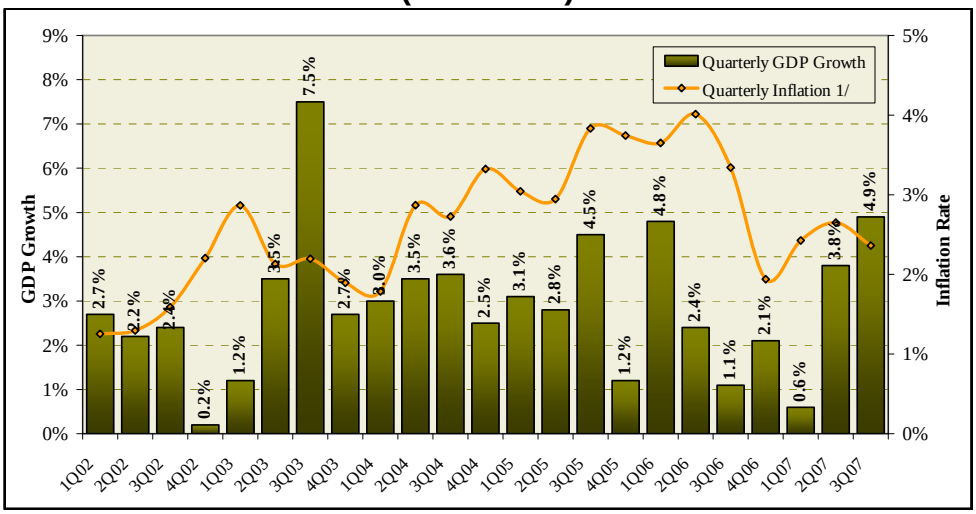
Medford was incorporated in 1884. By 1890, it had a population of 967. In 2007, the City was home to approximately 75,675 people. The economy has transitioned from gold mining to farming to harvesting and manufacturing of timber products. These natural resource-based sectors have given way in recent decades to services for the region of Southwest Oregon and Northern California. These include medical and professional services and regional distribution of goods. Traditional industries like fruit packing have matured into complex export-oriented manufacturers and retailers. Sabroso and Lithia Motors are examples of local companies that have grown into sophisticated national businesses. Food processing and manufacturing continue to be growth sectors for the while precision instrument and machine tool manufacturing are promising growth sectors for Medford in years to come.

III. REVIEW OF NATIONAL, REGIONAL AND LOCAL TRENDS

A. NATIONAL TRENDS

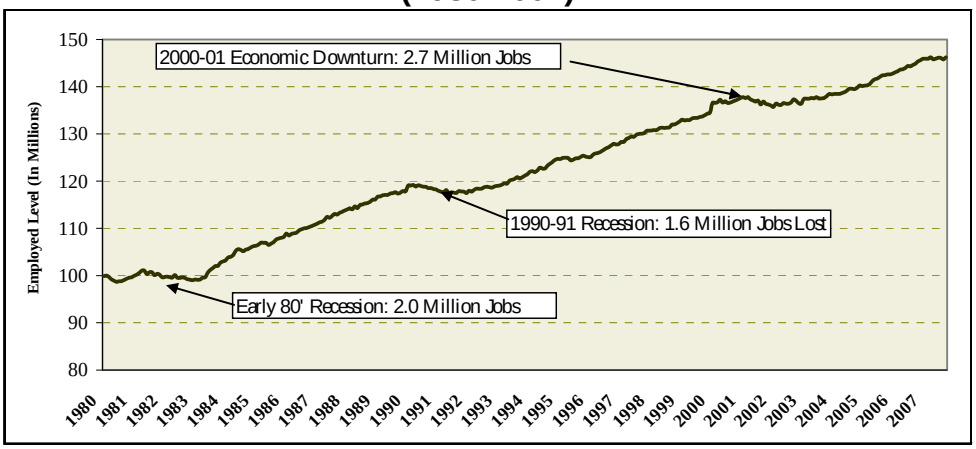
The National economy has been enjoying a sustained period of expansion since a modest downturn in 2000 and 2001. The Nation's economy experienced significant job losses in 2000 and 2001, followed by steady growth through 2007. While third quarter 2007 estimates of Gross Domestic Product (GDP) indicate that the economy remains robust, expansionary cycles as measured by sustained GDP growth, are limited in duration and the current cycle may be nearing an end.

FIGURE 2: REAL GROSS DOMESTIC PRODUCT AND INFLATION (2002-2007)



1/ Quarterly inflation is calculated as a three month average.
SOURCE: U.S. Bureau of Economic Analysis, U.S. Bureau of Labor Statistics

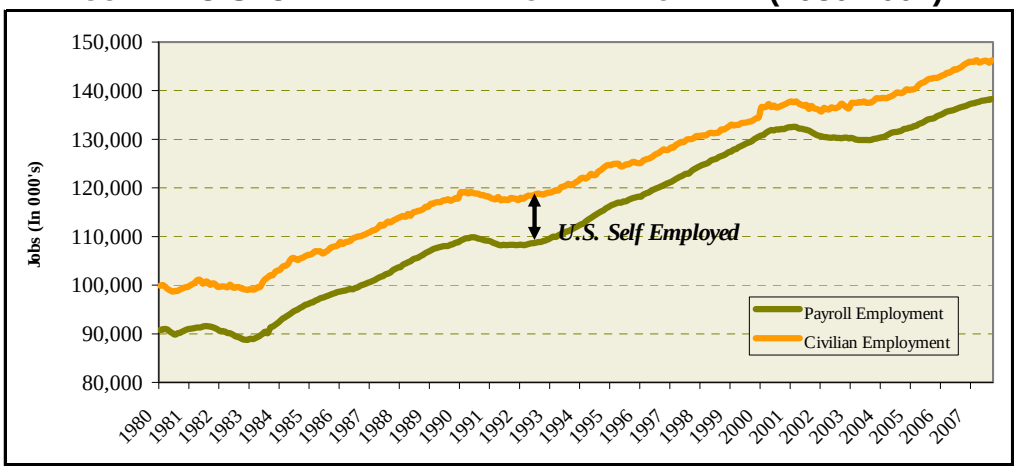
FIGURE 3: NATIONAL EMPLOYED LEVEL AND RETRACTIONARY PERIODS (1980-2007)



SOURCE: OLMIS

During periods of economic expansion, the independent and self-employed jobs can be expected to grow at a faster rate than payroll jobs. This is largely the result of entrepreneurial activity and derived from employment losses during the previous economic downturn. As the economy stabilizes, we find payroll jobs expanding at an accelerated rate as start-ups/independent operators sell out or ventures eventually fail. As Figure 4 indicates, the Nation tends to average an 8- to 10-million job differential between payroll and civilian employment[1]. With agricultural employment declining by 7% annually according to the U.S. Department of Agriculture, the self-employed will account for a greater majority of the difference over time.

FIGURE 4: U.S. CIVILIAN AND PAYROLL EMPLOYMENT (1980-2007)



SOURCE: U.S. Bureau of Labor Statistics

[1] Civilian employment is defined as all U.S. private employment, including sole-proprietors and self-employed. Payroll employment is defined as employees who are covered under unemployment insurance.

LONG-TERM INDUSTRY SPECIFIC TRENDS

Since 1980, the composition of the United States economy has undergone a dynamic transformation from manufacturing to service. The economy used to be heavily weighted toward goods-producing industries, which comprised more than 30% of national employment. But higher levels of educational attainment, technological advances, increased construction activity and contractual labor arrangements such as outsourcing, were largely responsible for the nation's economic shift[2]. Since 1980, service-oriented industries have experienced a 13.2% increase in its share of the national economy. Currently, service industries comprise 62% of national payroll employment. The NAICS broadly defines industry groups by these categories: 42 (Wholesale Trade), 44-45 (Retail Trade), 52-53 (Financial Activities), 54-56 (Professional & Business Services), 61-62 (Education & Health Services), 71-72 (Leisure & Hospitality Services), & 81 (Other Services), Furthermore, since 1980, roughly half the industries in the nation have displayed reductions in their share of national employment, led by the Manufacturing sector which fell from 20.7% of all employment in 1980 to only 10.2% today. The Nation's growth industries have included Education & Health (+5.5%), Professional & Business Services (+4.6%), and Leisure & Hospitality (+2.4%).

NATIONAL OUTLOOK

The national economy is expected to continue to expand, but at a rate below what was recorded during the last few years. Concerns over the national housing market coupled with problems in the sub-prime lending market appear to be significant factors creating uncertainty in the economy. Tight financing conditions are likely to continue into 2008. On the other hand, a higher likelihood for relaxed monetary policy and the combined effect of a lower dollar and global economic expansion will likely limit economic softening in the near term.

Over the next decade, the composition of employment in the national economy is expected to continue to transition towards more service-oriented jobs. Moving forward, service sector growth will be more demographically driven than the previous decade. For example, Health Service jobs are expected to lead all industries over the next decade, largely driven by the aging national population. Similarly, growth in Financial Activities and Leisure & Hospitality are also projected to grow significantly as the result of aging Baby Boomers.

Comment [MSOffice1]: Demographically or domestically driven?

NATIONAL SUMMARY

- Over the last quarter century, the United States economy has transitioned from a goods-producing to a service-oriented system. In the mid 1990s this caused new economy theorists to believe that the U.S. economy was effectively immune to boom and bust macroeconomic cycles. The bursting of the dot-com bubble prompted by high stock speculations for Internet-based companies and subsequent economic slowdown of 2000-2001 proved the theory incorrect. Yet the relative mildness of the 2000-2001 "recession"[3] coupled with recent economic resilience in light of the current credit crisis suggests that a service economy may be characterized by less economic volatility.

Comment [MSOffice2]: Footnotes don't match and first footnote needs more detail

- Moving forward, service employment growth is expected to continue, with notable strength in Health Services and Professional & Business Services. Identifying industry growth sectors

[2] Simmering, Marcia J. Encyclopedia of Management, 2006, Garner, C. Alan. "Offshoring in the Service Sector: Economic Impact and Policy Issues." *Economic Review—Federal Reserve Bank of Kansas City* 89, no. 3 (2004). Goodman, Bill, and Reid Steadman. "*Services: Business Demand Rivals Consumer Demand in Driving Job Growth*." Monthly Labor Review, April 2002.

[3] The 2000-2001 recession is more appropriately classified as "economic downturn" as recessions are typically characterized by two consecutive quarters of negative GDP growth.

is important as employment in one industry can be affected by changing practices in another. For example, increased use of contractors and consultants has led to greater employment in the management, scientific and technical consulting services industry but to reduced employment in the many industries that previously hired management and technical analysts as employees[4]. This example is expected to continue into the next decade.

B. REGIONAL & LOCAL TRENDS

DEMOGRAPHICS

The City of Medford remains the predominant demographic and economic hub of the Southern Oregon Region[5]. Since the 2000 census, the City of Medford has remained the region's fastest growing municipality, adding 10,273 new residents at an annual rate of 2.5 %. Over this interval Medford's share of regional population has grown from 15.1 % to 16.5 % in just six years.

In 2006, the Southern Oregon region continued its trend toward a larger retirement age population base relative to the state. Roughly 17.2 % of the regional population is aged greater than 65 years as compared to 12.9% at the state level. In contrast to the broader Southern Oregon region, the City of Medford is characterized by a relatively young population as compared to both state and regional distributions. In 2006, more than 52 % of the local population was aged less than 35 years. Additionally, this composition is predominately driven by individuals under 19 years of age, indicating greater need for educational opportunities and entry-level employment and training resources. Failure to provide opportunities locally for a younger demographic base typically results in a "brain drain" condition, where a region's best and brightest seek advancement opportunities elsewhere.

An area's level of educational attainment is often used as a proxy for the skill level of the population base. From an economic development perspective, the City of Medford has a slight competitive advantage regionally, with a greater distribution of higher educated persons; 23.3 % of local residents have a bachelor's degree or higher, compared to 19.4 % at the regional level. The City of Medford is moving in the right direction with respect to the skill level of its residential base. Since 2000, the share of residents 25 years and older with at least a bachelor's degree grew from 21.1 % to 23.3 % At the opposite end of the spectrum, the City's rate of high school drop-outs has fallen sharply from 16.7 % in 2000 to 13.5 % in 2006.

In Medford, the participation of residents in the labor force has grown significantly since the 2000 census as younger individuals enter the workforce. In 2006, the participation rate was 65 % up from 62 % in 2000. A primary contributor has been a rise in the female participation in the labor force, which is up to 59 % from 56 % in 2000. The maturation of the City's younger demographic is another possible source of participation growth. With the gains in recent years, labor force participation in the City of Medford is now on par with rates at the State Level.

Over the previous two economic cycles (1982 to 1990, 1991 to 2001) unemployment in the Southern Oregon region has remained consistently higher than the broader State economy. In other words, regional volatility as measured by unemployment is significantly higher than at the State level. The same can generally be applied to conditions locally in Medford. However, in the

[4] US Department of Labor. Occupational Outlook Quarterly, Vol. 51, Number 3, Fall 2007

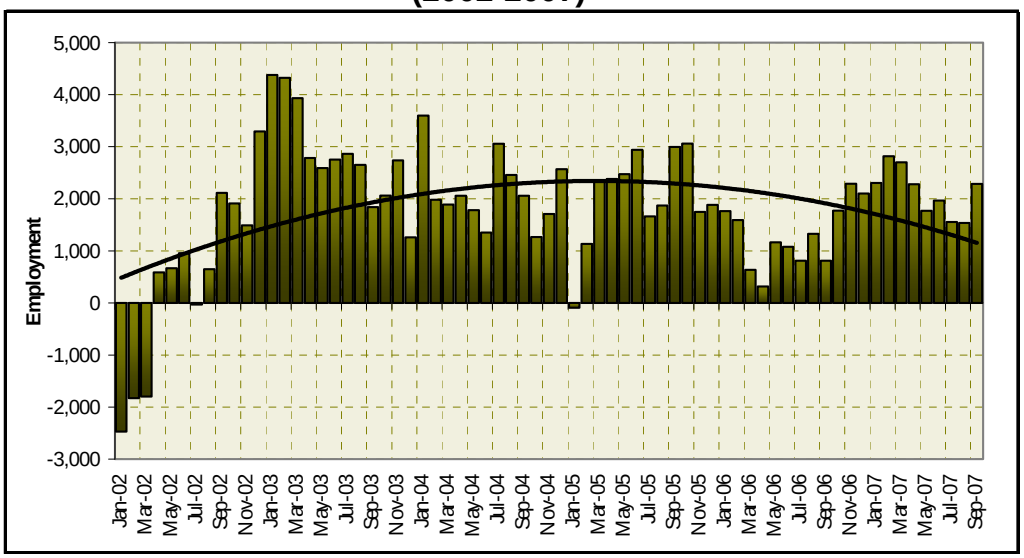
[5] Southern Oregon, or "the region" in this analysis, is defined collectively as Douglas, Jackson, Josephine, and Klamath Counties

current decade, diversification in the local economy has led to proven resiliency, and local unemployment has more closely followed State trends.

EMPLOYMENT

Over the past five years employment growth in Jackson County has remained strong, with only seasonal variations in year-over-year employment growth. Since January 2002, the Jackson County economy has created an estimated 16,895 new jobs with growth months exceeding contraction months 74 to 7.

FIGURE 5: YEAR-OVER-YEAR EMPLOYMENT GROWTH, JACKSON COUNTY (2002-2007)

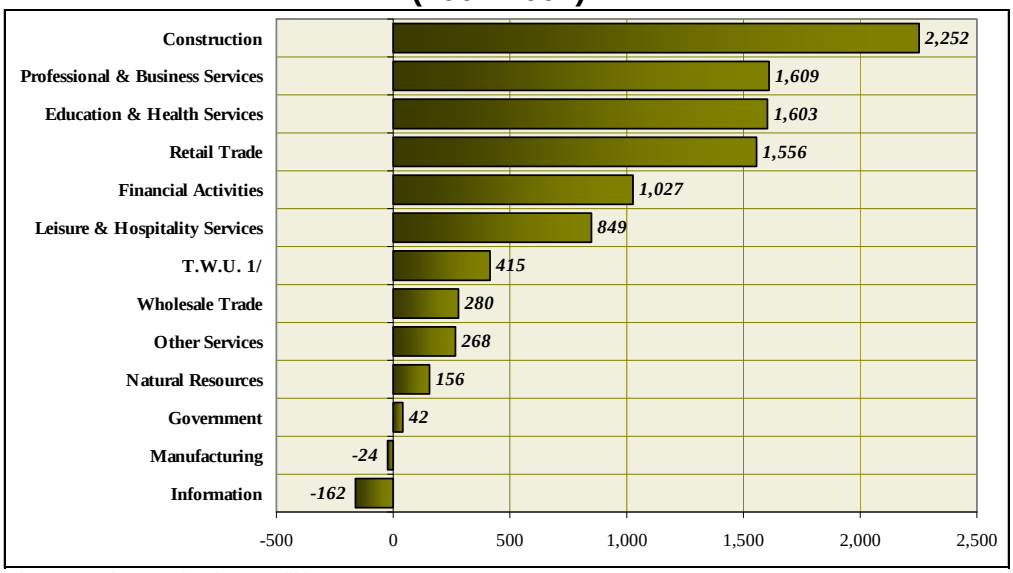


SOURCE: Oregon Employment Department (OLMIS)

The largest sectors of the Jackson County economy roughly mirror sector rankings at the State and Regional levels. However, the County diverges widely within some sectors. Most notably, Retail Trade in Jackson County accounts for roughly 17.4% of industry employment, significantly above the 15% in Southern Oregon and 11.5% statewide. This finding is implicitly a testament to Medford's position as a regional economic hub serving a four-county region. Conversely, Jackson County has a much smaller share of employment concentrated in Manufacturing (8.4% vs. 11.1% regionally) and Government (14.2% vs. 17.3% regionally).

Over the past five years only two sectors in Jackson County have failed to experience net economic growth as measured by employment. They are Manufacturing, with 24 fewer jobs and Information, with 162 fewer jobs). Among growth sectors, the housing boom fueled growth in construction employment which added more than 2,250 jobs or 61%. The next five growth industries are service oriented sectors which collectively created 6,643 new jobs in Jackson County since 2002.

FIGURE 6: EMPLOYMENT GROWTH BY INDUSTRY, JACKSON COUNTY (2002-2007)



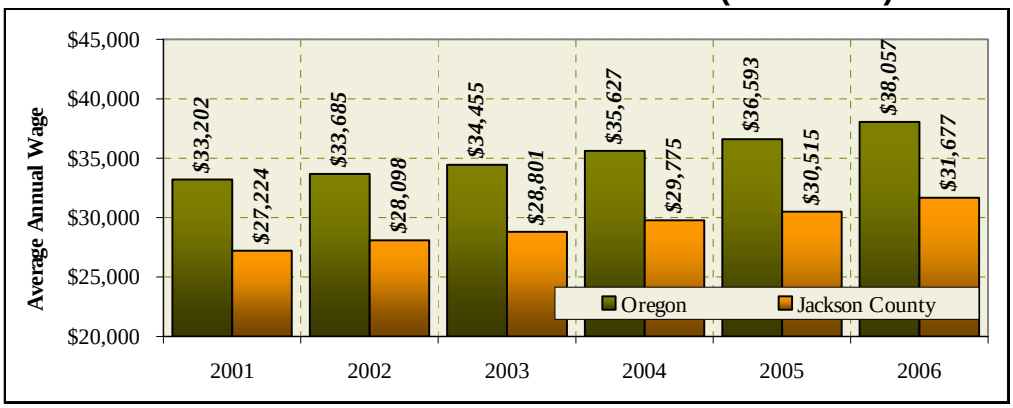
1/ Transportation, Warehousing, & Utilities
SOURCE: Oregon Employment Department (OLMIS)

WAGES

With the exception of Natural Resources, Retail Trade, and Education & Health Services, average wage levels by sector in Jackson County are significantly below wage levels statewide. Across all industries, Jackson County wages averaged $31,677, again 16.8% below the $38,057 Oregon average. Since 2001, wage levels in Jackson County have averaged 3.1% annual growth, slightly out pacing 2.8% annual growth at the State level.

In Jackson County, the highest paid industry sector is Transportation, Warehousing and Utilities ($39,738), closely followed by Information ($39,405) and Wholesale Trade ($39,190). The lowest paid industries are Leisure & Hospitality ($14,639) and Other Services ($20,564).

FIGURE 7: AVERAGE ANNUAL WAGE GROWTH (2001-2006)



SOURCE: Oregon Employment Department (OLMIS)

OTHER FACTORS FOR ECONOMIC DEVELOPMENT POTENTIAL

In addition to the economic indicator wage data analyzed in the Economic Element, other factors provide insight into the City's economic development potential. These factors, together with their challenges and opportunities, are discussed briefly below:

- **Amenity Values**: In land use planning parlance, amenity values are encompassed in the concept of *livability*. The term livability is rarely, if ever, used in economic terms. But amenity values are often characterized in the field of Economics and Economic Geography because amenity values have real economic consequences. For example, Jackson, Wyoming is located in a remote area and has few of the typical economic assets required for a vibrant economy. It does, however, have high amenity values that translate into a vibrant economy (Teton County has a median household income of $59,568 compared to $38,481 in Jackson County). Amenity values are qualitative and subjective in nature, which can make them challenging to effectively characterize in quantitative economic terms. But their real economic consequences make them worth identifying. Medford and the greater Southern Oregon Region have a number of amenity values that create potential for economic opportunities, including but not limited to:
    - ◊ *Excellent fishing and recreation activities on the Rogue River and Applegate River*
    - ◊ *Excellent mix of City, County, State and National Parks*
    - ◊ *The Bear Creek Greenway*
    - ◊ *Pleasant climate*
    - ◊ *Several fine golf courses*
    - ◊ *Pear Blossom Festival and Medford Cruise*
    - ◊ *Arts and Entertainment including the Medford Jazz Jubilee, Art in Bloom, the Rogue Valley Symphony, the Rogue Valley Chorale, Craterian Theater performances, the Shakespeare Festival and the Britt Festival*
    - ◊ *Mt. Ashland Ski Area*
    - ◊ *Beautiful mountain valley scenery.*

- **Production Inputs** (Non-Labor): In the past, major manufacturing in Jackson County has depended on a predictable and adequate supply of timber. Federal land management practices have changed since that time and have reduced the available supply of raw materials to the timber industry. Some efforts are underway to increase the viability of small diameter timber as an industrial supply source for wood products. Small diameter

timber is more readily available and could reinvigorate the timber industry by the addition of a material supply source that is not economically viable at this time.

The expanding wine industry is adding a significant new source of raw materials to the production processes in Jackson County. The region now produces products from boutique specialty wines to wine byproducts that can be refined into other food products.

Medford is expected to have access to an adequate supply of electricity and natural gas, both of which are considered relatively inexpensive as compared to the rest of the country. Recent trends in the energy industry and government initiatives regarding energy development and conservation present some new opportunities for the City of Medford and the region. Permit applications have been submitted for a new natural gas pipeline that would cross the northern portion of the County. The completion of this pipeline would provide new opportunities for industry to utilize this high-volume energy supply source. Also, there are a number of energy trust tax credits and other incentives that support a growing solar energy industry.

- **Economic Development Support Organizations:** The City has established an Economic Development Office to provide retention and expansion assistance to the local community, as well as support for new businesses. This Office provides one point of contact for development issues and inquiries.

  Southern Oregon Regional Economic Development Incorporated (SOREDI) is a non-profit organization formed in 1987 as a two-county organization (Jackson and Josephine) to cooperatively promote economic development activities. SOREDI is funded by local private and public monies. It is operated by a director and a small support staff, with a board of directors responsible for policy development. The director coordinates, implements and responds to the board of directors' marketing plan and organization mission for economic development activities.

  The Medford Urban Renewal Agency was formed in 1988 for the purpose of revitalizing the downtown core. The urban renewal area includes about 577 acres. The renewal agency's major project during the planning horizon is The Commons, a project that may contain Lithia's corporate headquarters, along with a mix of residential, retail and office uses. The agency has already experienced success in its façade improvement programs and has added significant parking capacity to the downtown core.

  The Chamber of Medford and Jackson County is the largest in the State of Oregon and is active in a variety of community affairs ranging from commercial development to tourism. The Chamber's mission is promoting growth and prosperity for community commercial and industrial endeavors. Local government agencies often call upon Chamber members to participate in community development issues and policy making. The Chamber is primarily composed of community business owners.

- **Environmental Constraints**: Future industrial development may be constrained by the inability of the City's air shed to tolerate additional contributors to air pollution. Medford is within a non-attainment area, a geographical area designated by the State as not meeting federal ambient air quality standards. The problem is particularly severe in the winter months when there is a strong tendency toward temperature inversions, which trap stagnant air in the valley. Carbon monoxide and particulate matter under 10 microns in size (PM10) are the two pollutants targeted by health officials for adversely impacting public health in

the valley. In the near future, additional regulations that restrict particulate matter under 2.5 microns in size (PM 2.5) will also be targeted.

The Department of Environmental Quality administers the Rogue Valley Air Quality Maintenance Area (AQMA) plan to address the region's non-attainment for air quality. This plan includes strict rules regarding new point source emissions and requires industrial activities to upgrade pollution control devices as required by amendments to the 1990 Clean Air Act. These pollution control requirements apply nationwide; therefore, there is no relative additional cost to industry in Jackson County. Even though pollution by these industries has been reduced, the air shed cannot tolerate additional emissions; therefore, any new industry coming into the area which emits over 5 tons/year of particulate matter must find a way to offset the emissions through the Title V permit process.

Stream flow and ground water pollutants are not as problematic in the City, as in other parts of the county. In any event, the DEQ enforces state and federal laws to ensure that acceptable recognized levels of pollution are not exceeded. Since effluent guidelines are set by the federal government, the only additional relative costs to an industry locating in Jackson County would be those associated with sewer system pretreatment standards set by the City.

- **Educational and Technical Training Programs:** Several institutions located in and around Medford provide educational and skills training, most notably Southern Oregon University and Rogue Community College. Rogue Community College (RCC) is an active vocational institution located in Medford and Grants Pass. RCC offers more than 50 different two-year degree and one-year certificate programs. Vocational programs at RCC include training in art, automotive technology, accounting, business, computer science, criminal justice, electronics, nursing, office administration, manufacturing, and human services.

  Southern Oregon University (SOU) is located in Ashland, about 15 miles south of Medford. SOU is a liberal arts institution. The seven schools span a wide range of disciplines and include 28 departments and 35 degree programs at the undergraduate and graduate levels including the M.B.A., M.S. in education and M.A. in liberal arts. The School of Fine and Performing Arts includes the departments of art, music and theater arts. The Schneider Museum of Art is also a center for the Southern Oregon arts community.

  The SOU Division of Continuing Education is designed to meet the demand for lifelong learning, including continuing professional education. The program is divided into five categories: off-campus programs (credit courses); non-credit programs; personal enrichment activities; conferences; institutes and international studies. Many of these programs are offered at the Mary Phipps Center in Medford.

  There are several organizations whose primary mission is to assess workers' skills and occupational preferences and then coordinate with the appropriate educational institution for placement in the area. One such organization is The Job Council. The Community Response Team is a coordinated effort of The Job Council, Rogue Community College and the State Employment Division. The main goal of the Community Response Team is to place workers in new industries or with new employers that are locating in the area. In the case of business failure, the Community Response Team attempts to either place workers in other jobs or direct them to training programs. The Job Council is also active in a vocational rehabilitation program that mainstreams mildly disabled people in the work

place. Another resource is The Jobs Advisory Board, formed by members from the State Adult and Family Services Division, Rogue Community College, and the State Employment Division for the purpose of placing welfare recipients.

COMPETITIVE POSITION AND TARGET INDUSTRY OPPORTUNITIES

In 2003, E.D. Hovee analyzed regional competitive position on a county-wide basis[6] Hovee first analyzed regional competitiveness because economic development opportunities available to Medford result in part from the region's overall competitiveness in attracting industries relative to other regions nationwide. Jackson County's competitive advantages were studied by applying a series of screening criteria to identified industry sectors.

Five sets of screening criteria were developed:

1. *Current and changing competitive position of the industry relative to the nation*
2. *Worker productivity and change in productivity over time*
3. *Percent of Output Value-Added (More than 50% is viewed as most desirable.)*
4. *An employment multiplier above 2.0, meaning that at least two jobs are supported in the local economy for every new job directly created within the employment sector in question.*
5. *Wage levels including changes over time relative to other industries in the local area*

Nine industries met four of the five criteria. Taken together, one-fifth of the industrial sectors portrayed Jackson County as being strongly competitive. Industries meeting four or more criteria included:

- *Mining*
- *Construction*
- *Lumber and Wood*
- *Stone, Glass and Concrete*
- *Electronic Equipment*
- *Instruments*
- *Trucking and Warehousing*
- *Security and Commodity*
- *Real Estate*
- *Health Care*

Hovee extended the county-wide analysis to compare Medford's competitive position within the region and with the greater US economy. Similar to the regional analysis, the Medford specific analysis utilized a location quotient calculation to identify competitiveness. Based upon this analysis, Medford's competitive advantage employment opportunities can be divided into three tiers:

Tier 1 Tier 1 represents industries for which Medford is in the best position to realize opportunities due to its current and growing competitive advantage relative to other areas nationwide.

[6] For details of this analysis, refer to Hovee 2003.

Tier 2 Industries in Tier 2 constitute employment sectors for which Medford has a current but eroding competitive position or sectors where Jackson County may be competitive but represents more of a challenge to Medford.

Tier 3 Tier 3 comprises sectors for which Medford is competitive relative to Jackson County, but is not competitive outside the Southern Oregon region.

TIER 1 BEST POSITION	TIER 2 STRONG BUT CHALLENGING	TIER 3 LOCALLY COMPETITIVE
Instruments	Mining	Food Products
Transit	Construction	Transportation Equipment
Transportation Services	Lumber & Wood	Air Transportation
Communications	Printing & Publishing	Wholesale Trade
Retail Trade	Stone, Glass & Concrete	Insurance Carriers
Banking	Electronic Equipment	Insurance Agents & Brokers
	Trucking & Warehousing	Business Services
	Electric, Gas & Sanitation	Legal Services
	Security & Commodity	*Leisure and Hospitality Services*
	Real Estate	
	Health Care	

As noted, Tier 1 industries represent the best opportunities for economic growth and diversification. Tier 2 and 3 sectors also are also important components of Medford's Economic Opportunities, but these sectors may require more local initiative to market the opportunities available. Both Tier 2 and 3 industries will be particularly affected by policies and strategies Medford employs to maintain a competitive industrial and commercial land base.

The analysis performed by Hovee of identify target industries in Medford was reviewed, but not replicated by Johnson-Gardner as part this Economic Opportunities Analysis. This review indicated that the sectors identified by Hovee still appear prevalent. However, Leisure and Hospitality Services was added as a Target Industry Opportunity. Medford has recently experienced significant hotel construction activity and 849 jobs have been added in this sector from 2002-2007. For these reasons, this sector has been added to target industry opportunities for the City.

REGIONAL & LOCAL SUMMARY

- As the prevailing economic and demographic hub of the Southern Oregon Region, Medford has economic trends and conditions that will direct the course of the regional economy in the foreseeable future. Relative to the surrounding region, the City maintains a younger demographic base, particularly individuals under the age of 19. This finding is important from an Economic Development perspective. Younger individuals will begin to enter the workforce in greater numbers. Failure to nurture entry-level employment and training resource opportunities could result in a "brain drain" condition locally.

- As evidenced by the previous two economic cycles, the Southern Oregon region has proven to be more susceptible to economic volatility. In other words, economic weakness at the national or state level is likely to be realized regionally to a greater degree. However, in recent years, the benefits of economic diversity in Jackson County have resulted in more measured economic movement locally.

- Across all sectors, wage levels in Jackson County are well below the statewide average. Low relative wage levels simultaneously increase the incentive for qualified workers to relocate as well as provide a disincentive for new workers.

IV. EMPLOYMENT FORECAST

A. INTRODUCTION

This analysis updates the employment forecasts within the City of Medford's Urban Growth Boundary. The employment forecasts were generated through 2028. The primary source of data on current employment patterns was derived from the State of Oregon Employment Department's ES-202 reports.

B. ANTICIPATED REGIONAL GROWTH

Figure 8 outlines the State of Oregon's most recent employment growth forecast for Region 8, which includes Jackson and Josephine Counties. The State's outlined growth rates were used as baseline estimates to forecast the rate of employment growth by industry in this analysis.

- *Over the forecast period (2006–2016), the region's employment growth is projected to average 1.5% across all industries.*

- *The Education & Health (2.6% AAGR) and Professional & Business (1.9% AAGR) sectors are expected to display accelerated growth at the regional level during the period. Only modest rates of growth are expected in the Natural Resources (0.2% AAGR), Manufacturing (0.7% AAGR) and Public Administration (0.7% AAGR) sectors.*

- *Modest projected growth in the Manufacturing sector reflects anticipated declines in many traditional industries, offset by expansion in other manufacturing firms. While current operations may decline in employment, a commensurate decline in land utilization is not anticipated, as these firms are not expected to reduce property needs.*

FIGURE 8: EMPLOYMENT PROJECTIONS, REGION 8 (JACKSON & JOSEPHINE COUNTIES)

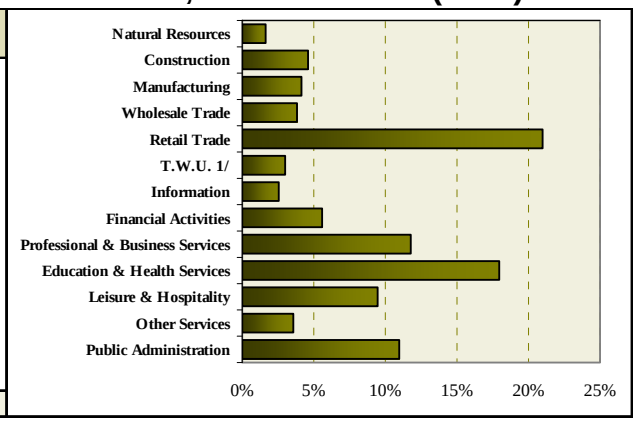
NAICS	Region 8 Employment 2006	Region 8 Employment 2016	Avg. Annual Growth Rate
Natural Resources	980	1,000	0.2%
Construction	7,590	8,800	1.5%
Manufacturing	10,420	11,220	0.7%
Wholesale Trade	3,540	3,950	1.1%
Retail Trade	18,300	21,160	1.5%
T.W.U.	3,200	3,630	1.3%
Information	2,010	2,170	0.8%
Financial Activities	6,090	6,870	1.2%
Professional & Business	9,580	11,550	1.9%
Education & Health	15,730	20,250	2.6%
Leisure & Hospitality	12,120	14,580	1.9%
Other Services	3,800	4,310	1.3%
Public Administration	15,530	16,590	0.7%
TOTAL	***108,890***	***126,080***	***1.5%***

SOURCE: Oregon Employment Department

Current employment within the Medford UGB is concentrated in the Retail Trade (21.0%), Education & Health Services (18.0%), Professional and Business Services (11.8%) and Public Administration (11.0%) sectors. The employment distribution is consistent with the City's position as the services hub for much of Southern Oregon and Northern California.

FIGURE 9: COVERED EMPLOYMENT BY INDUSTRY, MEDFORD UGB* (2006)

NAICS Industry	Employment Level Jobs	Employment Level % Dist
Natural Resources	829	1.6%
Construction	2,331	4.6%
Manufacturing	2,094	4.1%
Wholesale Trade	1,940	3.8%
Retail Trade	10,639	21.0%
T.W.U. 1/	1,518	3.0%
Information	1,291	2.5%
Financial Activities	2,833	5.6%
Professional & Business Services	5,971	11.8%
Education & Health Services	9,105	18.0%
Leisure & Hospitality	4,797	9.5%
Other Services	1,805	3.6%
Public Administration	5,562	11.0%
TOTAL	***50,713***	***100.0%***



1/ Transportation, Warehousing, & Utilities
SOURCE: Oregon Employment Department, ES-202 local data set
*UGB stands for Urban Growth Boundary. S*ee Statewide Planning Goal 14 for further information*

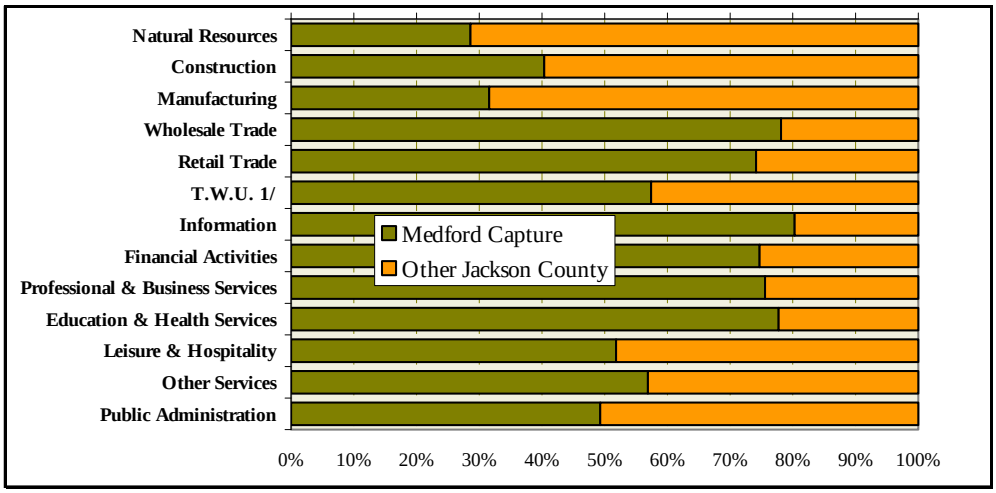
The City accounts for 60.7% of all employment in Jackson County, with dominant shares in the service and trade sectors (Figure 10).

FIGURE 10: LOCAL CAPTURE OF JACKSON COUNTY EMPLOYMENT, MEDFORD UGB (2006)

NAICS Industry	Employment Level		Medford
	Medford UGB	Jackson County	Capture
Natural Resources	829	2,898	28.6%
Construction	2,331	5,775	40.4%
Manufacturing	2,094	6,628	31.6%
Wholesale Trade	1,940	2,483	78.1%
Retail Trade	10,639	14,350	74.1%
T.W.U. 1/	1,518	2,645	57.4%
Information	1,291	1,608	80.3%
Financial Activities	2,833	3,792	74.7%
Professional & Business Services	5,971	7,903	75.6%
Education & Health Services	9,105	11,713	77.7%
Leisure & Hospitality	4,797	9,257	51.8%
Other Services	1,805	3,173	56.9%
Public Administration	5,562	11,286	49.3%
TOTAL	***50,713***	***83,511***	***60.7%***

1/ Transportation, Warehousing, & Utilities
SOURCE: Oregon Employment Department

FIGURE 11: MEDFORD SHARE OF JACKSON COUNTY EMPLOYMENT



1/ Transportation, Warehousing, & Utilities
SOURCE: Oregon Employment Department

Figure 9 reports covered employment, which reflects wage and salary employees who are covered under unemployment insurance. It does not reflect sole proprietors, officers of corporations or seasonal farm workers. Covered employment was converted to total employment shown in Figure 10. Medford's capture of the regular share of employment is depicted numerically in Figure 12 and graphically in Figure 11, using a data set for the State of Oregon and Jackson County derived from the U.S. Bureau of Economic Analysis (BEA).

FIGURE 12: CONVERSION OF COVERED EMPLOYMENT TO TOTAL EMPLOYMENT, MEDFORD UGB (2006)

NAICS	Covered Employment	Covered Share of Total Employment 1/	Total Employment
Natural Resources	829	82.1%	1,009
Construction	2,331	58.2%	4,008
Manufacturing	2,094	84.8%	2,468
Wholesale Trade	1,940	81.5%	2,379
Retail Trade	10,639	80.7%	13,191
T.W.U.	1,518	74.2%	2,047
Information	1,291	81.7%	1,580
Financial Activities	2,833	41.5%	6,818
Professional & Business	5,971	59.6%	10,023
Education & Health	9,105	71.5%	12,726
Leisure & Hospitality	4,797	78.3%	6,128
Other Services	1,805	43.1%	4,191
Public Administration	5,562	100.0%	5,562
TOTAL	***50,713***	***70.3%***	***72,130***

1/ Data from the Bureau of Economic Analysis for 2006, the most recent year complete data is available. Assumptions displays the percent of total wage and salary (covered) employment to total nonfarm employment in Jackson County.
SOURCE: Oregon State Employment Department, U.S. Bureau of Economic Analysis, and JOHNSON GARDNER

The 2006 employment totals derived from the ES-202 data and revised to include non-covered employment were converted to 2008 estimates based on available interim estimates of growth in the area.

FIGURE 13: CONVERSION TO 2008 BASE YEAR EMPLOYMENT ESTIMATE, MEDFORD UGB

NAICS	2006 Total Employment 1/	Short Term Annual Growth Assumption 2/	2008 Total Employment Estimate
Natural Resources	1,009	-1.0%	989
Construction	4,008	0.9%	4,084
Manufacturing	2,468	3.3%	2,636
Wholesale Trade	2,379	3.6%	2,554
Retail Trade	13,191	1.5%	13,578
T.W.U.	2,047	2.6%	2,154
Information	1,580	0.3%	1,589
Financial Activities	6,818	0.7%	6,909
Professional & Business	10,023	0.4%	10,101
Education & Health	12,726	2.1%	13,260
Leisure & Hospitality	6,128	3.8%	6,598
Other Services	4,191	1.9%	4,351
Public Administration	5,562	-0.2%	5,538
TOTAL	***72,130***	***1.5%***	***74,340***

1/ From Figure 4
2/ Based on 2006 to 2007 realized growth trend in the Current Employment Survey (CES), BLS. Growth rate was revised for the 2007-2008 growth year to reflect anticipated slowing in the national and regional economy.

Figure 13 presents a forecast of total employment within the Medford UGB between 2008 and 2028. The baseline forecast utilizes the State of Oregon's projected growth rates by sector over the next decade, and applies these rates of growth to the estimated current employment distribution within the Medford UGB. Two additional forecasts are also generated, referred to as the high and low growth scenarios. While a final reconciliation of need will be based on the baseline projection, it should be noted that employment forecasts are speculative, particularly over a twenty year horizon.

As shown, the baseline employment forecast anticipates an increase of 29,912 jobs, reflecting an average annual growth rate of 1.7%. The high growth scenario projects an increase of 35,404 jobs (2.0% AAGR), while the low growth scenario projects 23,871 new jobs (1.4% AAGR). Education & Health Services, Professional Services and Retail Trade are expected to account for over 61.7% of net new growth over the forecast period. Leisure & Hospitality and Financial Activities are expected to account for an additional 18.6%.

FIGURE 14: EMPLOYMENT FORECAST, MEDFORD UGB (2008-2028)

Baseline Forecast	Base Year	Employment Forecast				2008-2028 Growth	
NAICS	2008	2013	2018	2023	2028	Jobs	AAGR
Natural Resources	989	999	1,009	1,019	1,029	41	0.2%
Construction	4,084	4,441	4,829	5,251	5,711	1,626	1.7%
Manufacturing	2,636	2,735	2,838	2,945	3,056	420	0.7%
Wholesale Trade	2,554	2,752	2,965	3,194	3,441	887	1.5%
Retail Trade	13,578	14,601	15,700	16,883	18,154	4,576	1.5%
T.W.U.	2,154	2,294	2,443	2,602	2,771	618	1.3%
Information	1,589	1,651	1,716	1,783	1,852	263	0.8%
Financial Activities	6,909	7,411	7,949	8,526	9,146	2,237	1.4%
Professional & Business	10,101	11,201	12,420	13,772	15,270	5,169	2.1%
Education & Health	13,260	15,044	17,070	19,367	21,975	8,715	2.6%
Leisure & Hospitality	6,598	7,308	8,094	8,965	9,930	3,332	2.1%
Other Services	4,351	4,634	4,935	5,256	5,597	1,246	1.3%
Public Administration	5,538	5,724	5,916	6,114	6,320	782	0.7%
TOTAL	***74,340***	***80,793***	***87,883***	***95,677***	***104,252***	***29,912***	***1.7%***

High Growth Forecast 1/	Base Year	Employment Forecast				2008-2028 Growth	
NAICS	2008	2013	2018	2023	2028	Jobs	AAGR
Natural Resources	989	1,000	1,012	1,024	1,036	47	0.2%
Construction	4,084	4,497	4,951	5,451	6,002	1,918	1.9%
Manufacturing	2,636	2,750	2,869	2,994	3,124	489	0.9%
Wholesale Trade	2,554	2,783	3,031	3,302	3,598	1,043	1.7%
Retail Trade	13,578	14,759	16,043	17,439	18,956	5,377	1.7%
T.W.U.	2,154	2,315	2,489	2,676	2,877	724	1.5%
Information	1,589	1,661	1,736	1,814	1,895	306	0.9%
Financial Activities	6,909	7,488	8,117	8,798	9,536	2,627	1.6%
Professional & Business	10,101	11,374	12,806	14,419	16,235	6,134	2.4%
Education & Health	13,260	15,328	17,719	20,483	23,679	10,419	2.9%
Leisure & Hospitality	6,598	7,419	8,343	9,382	10,550	3,952	2.4%
Other Services	4,351	4,677	5,028	5,405	5,811	1,460	1.5%
Public Administration	5,538	5,752	5,974	6,205	6,445	908	0.8%
TOTAL	***74,340***	***81,804***	***90,119***	***99,393***	***109,743***	***35,404***	***2.0%***

Low Growth Forecast 2/	Base Year	Employment Forecast				2008-2028 Growth	
NAICS	2008	2013	2018	2023	2028	Jobs	AAGR
Natural Resources	989	997	1,005	1,014	1,022	34	0.2%
Construction	4,084	4,377	4,691	5,027	5,387	1,303	1.4%
Manufacturing	2,636	2,717	2,802	2,888	2,978	342	0.6%
Wholesale Trade	2,554	2,716	2,889	3,072	3,268	713	1.2%
Retail Trade	13,578	14,418	15,309	16,255	17,260	3,681	1.2%
T.W.U.	2,154	2,269	2,390	2,518	2,652	499	1.0%
Information	1,589	1,640	1,693	1,747	1,804	214	0.6%
Financial Activities	6,909	7,321	7,757	8,220	8,710	1,801	1.2%
Professional & Business	10,101	11,002	11,983	13,051	14,214	4,112	1.7%
Education & Health	13,260	14,719	16,339	18,137	20,134	6,874	2.1%
Leisure & Hospitality	6,598	7,179	7,812	8,500	9,250	2,652	1.7%
Other Services	4,351	4,583	4,828	5,085	5,357	1,006	1.0%
Public Administration	5,538	5,691	5,848	6,010	6,176	638	0.5%
TOTAL	***74,340***	***79,629***	***85,345***	***91,525***	***98,210***	***23,871***	***1.4%***

1/ High Growth Scenario assumes Medford's continued growth in share of Jackson County employment, exceeding region growth rates by 15%.

2/ Low Growth Scenario assumes Medford rate of growth is 82.5% of the baseline projection.

V. EMPLOYMENT LAND NEEDS ANALYSIS AND REQUIRED SITE TYPES

A. INTRODUCTION

This section summarizes the projected need for commercial and industrial land associated with the employment projections through 2028. Results are followed by a description of the methodology employed by JOHNSON GARDNER and CSA Planning to project the need for commercial and industrial space, and subsequently, commercial and industrial land.

Determining the City's required site types involves qualitative and quantitative analysis. The qualitative analysis describes the site characteristics expected to be demanded by firms during the planning period. There are three components to the quantitative analysis. The first describes the types of firms likely to locate in the City of Medford during the planning period. This component was completed through the target industry opportunities analysis completed in 2003 and incorporated into the Comprehensive Plan in October 2006. The second component involves projections of employment. These employment projections were summarized in the previous section. The third component combines these employment projections with the qualitative component of the site requirements analysis to project the demanded number of sites. The site requirements analysis completes the analysis of the land demand side of the Economic Element.

B. SUMMARY OF INDUSTRIAL AND COMMERCIAL LAND NEED FINDINGS

The results summarized in Figure 15 highlight projections of net new demand within the Medford UGB for commercial and industrial land between 2008 and 2028. Over the next twenty years, net new demand for commercial and industrial land is expected to range from 1,155 to 1,644 net buildable acres, contingent upon Medford's realized growth pattern through 2028. The "Medium Growth Scenario" indicates that Medford can expect aggregate commercial and industrial land need in the vicinity of 1,383 acres through 2028; additional acreage may be necessary to accommodate particular numbers and types of sites expected to be demanded.

FIGURE 15: PROJECTED AGGREGATE NEED FOR COMMERCIAL AND INDUSTRIAL LAND MEDFORD UGB (NET BUILDABLE ACRES)

Use Type	Need For Land (Acres) By Scenario: Medium Growth	High Growth	Low Growth
OFFICE COMMERCIAL	**340.6**	**403.3**	**271.6**
INDUSTRIAL	**400.8**	**470.9**	**322.6**
RETAIL COMMERCIAL	**396.7**	**487.1**	**360.0**
CITY RESIDENTS	201.8	247.8	183.1
REGION/TOURISTS 1/	194.9	239.3	176.9
OVERNIGHT LODGING	***25.8***	***30.6***	***20.6***
SPECIALIZED USES 2/	***219.5***	***252.5***	***181.1***
TOTAL	***1,383.4***	***1,644.4***	***1,155.9***

1/ Based on current ratios between locally supported and total sales, Census of Economy Survey from the Bureau of Labor and Industry and Census of Retail Trade.
2/ Hospitals, Clinics, etc. for employment not otherwise categorized.

These projections reflect ***net*** developable land, required only for building and impervious surface space requirements. Roads, rights-of-way, parks and public facilities, among other things necessary to serve projected land development, are not included. While the methodology is not based on a set density per acre assumption, the output reflects the following average jobs per net acre by broad land employment development categories.

AVERAGE JOBS/NET ACRE	
OFFICE COMMERCIAL	37.9
INDUSTRIAL	8.9
RETAIL COMMERCIAL	19.2
OVERNIGHT LODGING	10.9
SPECIALIZED USES 2/	20.0

In aggregate, the forecasts reflect a moderation in the pace of demand over the next twenty years, consistent with the moderation in employment forecasts. As outlined in the March 2003 Medford Economic Market Analysis, the City's volume of development over the last twelve years has been very high. The following table compares the space developed during the 1990 through 2002 period with average projected space needs through 2028.

LAND USE TYPE	Avg/90-2002	Avg/08-2028
Industrial Space	304,984	223,582
Office/Commercial	65,210	157,176
Retail Commercial	344,505	216,000
Overnight Lodging/Specialized		147,674
Total	714,699	744,432

The forecast reflects an expectation that a significantly greater percentage of future employment space needs will be office/commercial development in the Medford area. In addition to projecting aggregate commercial and industrial needs, LCDC's Goal 9 rule also requires the City of Medford to project the demanded number of sites by type. This has been done according to the ratio of existing acreages and a typical site size and is provided below.

FIGURE 16: PROJECTED ACRES AND NUMBER OF REQUIRED SITES BY TYPE

Demand by Development Pattern						Planning Horizon		
		Number of Sites				Acres		
		Typical Acreage	Medium	High	Low	Medium	High	Low
Office	Large	5.00	9	11	8	47	56	38
	Medium	1.50	55	65	44	83	98	66
	Small	0.45	468	554	373	211	250	168
Industrial	Large	30.00	3	4	3	103	121	83
	Medium	6.00	21	25	17	126	148	102
	Small	1.50	114	135	92	172	202	138
Commercial	Large	20.00	7	8	5	134	158	108
	Medium	4.50	31	37	25	140	164	112
	Small	0.75	163	220	186	123	165	139

In addition to the demand for actual sites, the need for public rights of way and infrastructure must be estimated in order to project the total amount of land that would be required in the event the Urban Growth Boundary were expanded to provide land for needed employment sites. The DLCD Goal 9 guidebook recommends 25% for cities that would largely be extending infrastructure into new areas to serve new development. This would be the predominant pattern for the City of Medford for lands outside the UGB and so Figure 17 converts the acreages in above Figure 16 to total gross land demand by category. Figure 16 projects the total land demand for the City of Medford.

FIGURE 17: PROJECTED AGGREGATE NEED FOR COMMERCIAL AND INDUSTRIAL LAND MEDFORD UGB (GROSS ACRES)

Use Type	Need For Land (Acres) By Scenario: Medium Growth	High Growth	Low Growth
OFFICE COMMERCIAL	**425.7**	**504.1**	**339.5**
INDUSTRIAL	**501.0**	**588.7**	**403.2**
RETAIL COMMERCIAL	**495.9**	**608.8**	**450.0**
CITY RESIDENTS	252.3	309.7	228.9
REGION/TOURISTS 1/	243.6	299.1	221.1
OVERNIGHT LODGING	**32.3**	**38.3**	**25.7**
SPECIALIZED USES 2/	**274.4**	**315.6**	**226.4**
TOTAL	***1,729.3***	***2,055.5***	***1,444.8***

1/ Based on current ratios between locally supported and total sales, CE Survey from the BLS and Census of Retail Trade.

2/ Hospitals, Clinics, etc. for employment not otherwise categorized.

C. INDUSTRIAL & OFFICE LAND NEED METHODOLOGY

Demand for industrial and office commercial land is a direct function of employment growth in industrial sectors that occupy this type of space. As a result, our projections of industrial and office demand are based on forecasted employment growth by the industrial sector within the City of Medford. Methodology for forecasting need for industrial and office commercial land follow a standard, multi-step process, summarized below. A number of appendices are referenced, which are found in the Technical Appendices at the end of this document.

DEMAND FOR OFFICE BUILDING SPACE

Sector employment growth for each of the three economic scenarios is converted into growth in office employment based on typical percentages of jobs, or capture factors, by sector that will be located in office development rather than industrial development. Employment density ratios, which is the average space in square feet necessary per office job, were utilized to calculate total office space demand given projected employment growth. Ratios and densities utilized are from the Urban Land Institute.

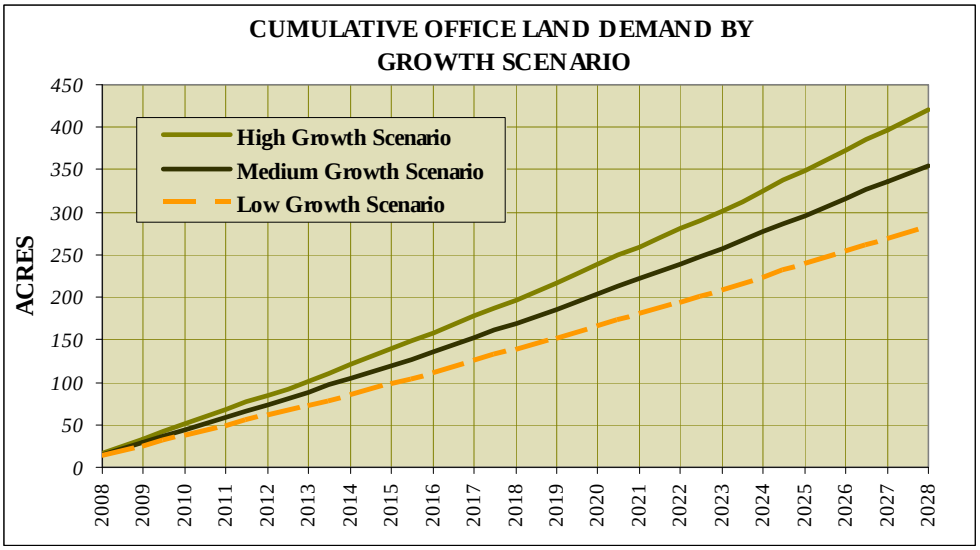
[Technical Appendix A and B]

DEMAND FOR OFFICE COMMERCIAL LAND

Demand for office land is a conversion of demand for space by an office floor area ratio (FAR). FAR is defined as the gross leasable building area divided by the buildable land area used. For example, a 5,000 square foot office building on a 10,000 square foot site would be an example of a 0.50 FAR. For projections under each of the three Medford economic scenarios, JOHNSON GARDNER assumed a relatively conservative 0.30 FAR. While surface parked office space can be produced at a FAR up to 0.50, the historic pattern in Jackson County has included more single story structures at a substantially lower ratio.

[Technical Appendix C]

FIGURE 18: CUMULATIVE OFFICE LAND DEMAND BY SCENARIO



DEMAND FOR INDUSTRIAL BUILDING SPACE

Medford industry employment growth for each of the three economic scenarios is converted into growth in industrial employment based on typical percentages of employment by sector that will be located in industrial space. Employment is then further stratified by type of space, including warehouse/distribution, general industrial and high-tech/flex space. Finally, employment density ratios, calculated as average square feet of space necessary per industrial job, were utilized to calculate total space demand by industrial space type given projected employment growth. These ratios and densities are based on industry standards.

[Technical Appendices D, E and F]

DEMAND FOR INDUSTRIAL LAND

Demand for industrial land is a conversion of demand for space by floor area ratios (FARs) by industrial development type and the addition of non-industrial use demand for industrial land typical of business park space. Projections utilize the following FARs:

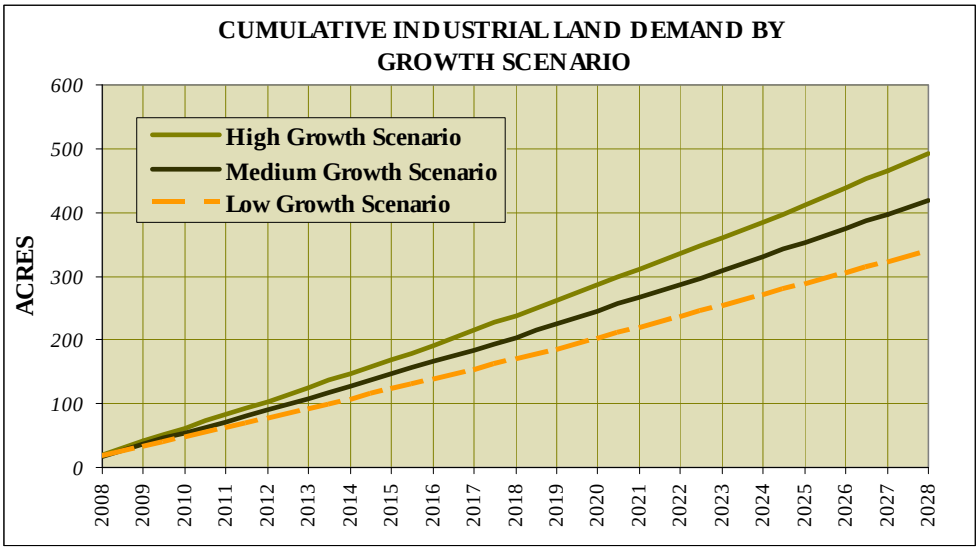
- *Warehouse/Distribution:* 0.31
- *General Industrial:* 0.30; and
- *High-Tech/Flex:* 0.26

Second, a 20% non-industrial use demand for land was assumed for industrial land projections.[7]

[Technical Appendix G and H]

[7] Non industrial uses in industrial districts include office space as well as support retail.

FIGURE 19: CUMULATIVE INDUSTRIAL LAND DEMAND BY SCENARIO



D. RETAIL COMMERCIAL LAND NEED METHODOLOGY

Unlike industrial and office commercial land need, retail land need is a direct function of households moving into Medford, typical spending patterns of those households and visitor/tourist spending. Methodology for forecasting retail commercial land need is summarized below.

HOUSEHOLD GROWTH PROJECTIONS

For modeling growth in retail commercial land need driven by residential growth, JOHNSON GARDNER utilized the City's adopted population growth projections. Medium, high and low growth scenarios, and resulting household growth projections through 2028, were estimated as follows:

- Medium Growth Scenario: Assumes population growth rate of 2.0% annually.
- High Growth Scenario: Assumes population growth rate of 2.2% annually.
- Low Growth Scenario: Assumes population growth rate of 1.7% annually.

ESTIMATE MEDFORD CITY PER-HOUSEHOLD RETAIL SPENDING

JOHNSON GARDNER estimated per-household annual spending by retail category utilizing data derived from the US Bureau of Labor Statistics Consumer Expenditure Survey. Categories are as detailed in the following table by the North American Industry Classification System (NAICS).

FIGURE 20: AVERAGE HOUSEHOLD EXPENDITURES ON RETAIL GOODS MEDFORD UGB, 2008

NAICS	Category	Per Household Expenditures 1/
441	Automotive Parts, Accessories and Tire Stores	$6,792
442	Furniture and Home Furnishings Stores	$889
443	Electronics and Appliance Stores	$830
444	Building Materials and Garden Equipment	$3,588
445	Food and Beverage Stores	$4,312
446	Health and Personal Care Stores	$1,708
448	Clothing and Clothing Accessories Stores	$1,477
451	Sporting Goods, Hobby, Book and Music Stores	$673
452	General Merchandise Stores	$4,107
453	Miscellaneous Store Retailers	$928
722	Foodservices and Drinking Places	$3,275
	Totals/Weighted Averages	***$28,581***

ESTIMATE FUTURE CITY OF MEDFORD RESIDENT-DRIVEN RETAIL SALES

Future retail sales originating within the City of Medford were simply calculated as the product of future household counts under the medium, high, and low growth scenarios through 2028 and annual average retail sales by category.

[Technical Appendix I]

Comment [MSOffice3]: Is this Figure 20?

DEMAND FOR RETAIL COMMERCIAL SPACE

Future retail sales are converted into need for developed retail space by calculating the product of future retail sales by category to a category-specific Sales Support Factor. The Sales Support Factor is the national average retail sales per square foot of space for each category of retail. Sales support factors are from the Urban Land Institute publication *Dollars & Cents*.

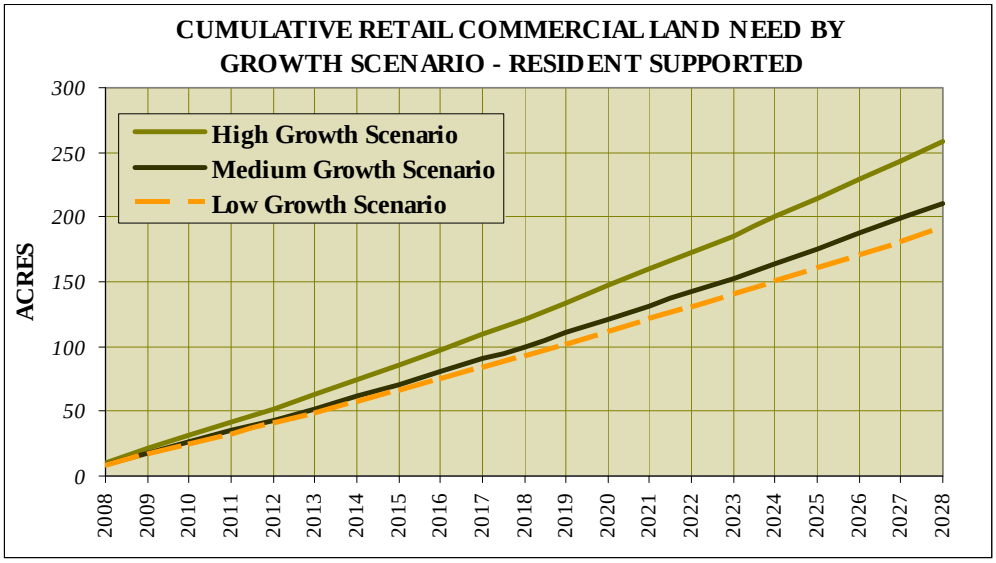
[Technical Appendix J]

DEMAND FOR RETAIL COMMERCIAL LAND

Demand estimates for developed retail space at different time points was then converted into demand for retail commercial land by applying the industry-standard retail Floor Area Ratio (FAR) of 0.25. The FAR assumes standard suburban retail space requiring one parking space per 1,000 square feet of retail floor area.

[Technical Appendix K]

FIGURE 21: CUMULATIVE RETAIL COMMERCIAL LAND NEED BY SCENARIO, RESIDENT SUPPORTED



REGION/VISITOR SPENDING PROJECTIONS

The City of Medford's estimated retail sales exceed locally originating sales. This reflects the City's position as a regional commercial center, serving the broader region for many retail purchases, as well as the influence of tourist traffic. It was assumed within our analysis that this ratio would remain constant, and that regional/visitor spending would grow at an equivalent rate to locally-originating retail sales.

E. REQUIRED SITE TYPE DESCRIPTIONS

The qualitative component of the site requirements analysis identifies factors such as site sizes (acreage), loading, parking, storage, public facilities, utilities, ownership patterns, surrounding development patterns, proximity to labor, proximity to customers, access to transportation infrastructure, and other site amenities unique to the specific industry. The description of site requirements builds on the analysis done as part of the interim Economic Element update in 2006. The subsequent tables identify archetypal site requirements according to four major land use categories: Office; Commercial Retail; Industrial; and Campus/Institutional.

A detailed matrix of site requirements was produced and organized under the four major employment development patterns: Office; Commercial Retail; Industrial; and Campus/Institutional. The detailed matrix is included later in this section. The following table provides a general summary of the site types comprising demand.

	Building Size /Square Feet	Typical Acreage Ranges
OFFICE		
Large	60,000-500,000+	3.5-20
Medium	12,000-70,000	0.5-3.0
Small	400-13,000	0.12-3.0
INDUSTRIAL		
Large	90,000-750,000+	20-200+
Medium	25,000-100,000	4.0-25
Small	500-30,000	0.5-5.0
COMMERCIAL		
Large	45,000-500,000+	7.0-100
Medium	12,000-50,000	3.5-15
Small	200-15,000	0.5-5

The level of specificity provided in the required site types will inform land demand and supply analyses and land use designation category development[8]. These general development pattern categories are not intended to be exhaustive, but rather are intended to capture the typical patterns observed in the market today and expected for the future[9]. By identifying and planning for typical patterns, the widest range of development patterns have been considered in an effort to analyze demand from many perspectives. Other than the Downtown pattern, which is unique in many ways, none of the patterns are intended to have a necessary geography or area associated with them. However, some areas of the City will contain more of certain archetypes and less of others, reflecting locational characteristics, historical development patterns, existing land use regulations and market forces.

The subsequent description of site requirements does not include extensive discussions of environmental constraints. Employment land development patterns are generally more sensitive to environmental constraints than residential development patterns. Generally, the described acreages assume sites that are largely free from environmental constraints such as slopes, wetlands and floodplains. This sensitivity of employment uses to environmental constraints occurs in part because they tend to be much larger on average. For example, an 8% slope can be addressed in a residential subdivision with streets that follow contours and houses with stepped foundations. An 8% slope for a 200,000 square-foot industrial building is going to result in massive cuts and fills in order to provide a flat building surface capable of siting a building of that size.

8 The typical development pattern presented in this section do not equate to land use districts; nor are they intended to function as *Uses with Special Siting Characteristics* (As that term is used in OAR 660-009-0025(8)), except where Economic Element policy language states otherwise.

9 Site sizes actually continuous phenomena. The segmentation into size ranges is not statistically defined, but is nonetheless useful for analysis and planning purposes. Hybrid and overlapping development patterns already exist and are common; others hybrids and overlaps may emerge during the planning period.

OFFICE DEVELOPMENT PATTERN TYPES

Type	Target Industries	Transportation; Access to Labor and Customers	Public Facilities/ Utilities	Site Sizes and Development Pattern Discussion	Ownership/Leasing Patterns	Local User Examples	Parking, Loading, Storage (Loading & Storage not major issues for Offices)
Large Office Users (150-1200+ Employees.; 60k-500k+ sq. ft. built space)	Main Branch/Head-quarters Offices for Banking, Security and Commodity, Real Estate, and Insurance Carriers, Healthcare, Communications, Transportation Services, Back Office Processing	Transportation system that provides access to labor is essential and may require convenient connections to major arterial roadways and State Highways. Proximity to government offices may be a factor. Convenient airport access is almost always important. Convenient public transportation may be a consideration, especially for a downtown site.	Water, sewer and storm drainage must be adequate. Site must be able to be served by modern telecommunications. Multiple energy suppliers may be a consideration.	Downtown: Large users sometimes occupy high-rise structures in downtown areas. Site sizes are usually 0.75 to 4 acres per user arrayed among traditional downtown development patterns. Large tenants critical in pre-lease requirements for high-rise construction.	Typically own or long-term leases from affiliated real estate company. Sometimes independent long-term leases.	Lithia Motors (proposed), City Hall, US Bank	Parking must be reasonably adequate and convenient, often structured. If structured, usually a mix of private and public.
				Business/Office Park: Usually two to three story buildings. Users usually have 3.5 to 15 acre sites clustered within a larger park of 50 to 400 hundred acres. Large users may also prefer a campus siting, and may land bank for potential future expansion.	Typically own or lease from affiliated real estate company.	South Valley Bank and Trust, Social Security Offices	Usually uses on-site surface parking at MLDC ratios.
				Under-performing Commercial Sites: Usually adaptive reuse of an under-performing commercial site 2 to 20 acres arrayed within a larger commercial node of 20 to 500 acres.	Typically discount lease structure, but may own.	Embarq (Call Center)	Usually uses on-site existing surface parking.
Medium Office Users (35-175 employees; 12k-70k sq. ft.)	Community Branches for Banking, Security and Commodity, Real Estate, and Insurance Carriers, and Community Healthcare Professional Business Services, Legal Services, Communications, Transportation Services	Transportation system that provides access to labor is important and will require convenient connections to at least a minor collector and may require convenient connections to major arterial roadways and State Highways. Proximity to Government offices may be a factor. High visibility access to customers is essential for the consumer oriented users. Airport access is important. Convenient public transportation may be a consideration, especially for a downtown site.	Water, sewer and storm drainage must be adequate. Site must be able to be served by modern telecommunications.	Downtown: Medium users tend to utilize one or two floors of an existing building. Downtown can be cost-prohibitive for uses that require ground floor customer visibility. Site sizes come from existing configurations. The size of these tenants and their ability to pre-commit on space make building new speculative space difficult at the scale seen in more urban locations.	Limited ownership opportunities may be a limiting factor. Leases prevalent.	Black, Chapman, Webber and Stevens (Law Firm)	Tends to utilize public supplied parking downtown that may include leases of public spaces.
				Business/Office Park: Occupy buildings individually or with a group of tenants. Users often seek sites near campus development patterns with which they interact. Sites are typically 0.5 to 3 acres per user within a larger park of 30 to 100 acres.	Ownership or leases from affiliated companies common and may be deciding factor.	Remax; In-Transit; SE Plan Office Area (Planned)	Usually uses on-site surface parking at MLDC ratios.
				Commercial Centers: These are the preferred development patterns for consumer oriented medium sized office users such as branch banks and real estate offices. Users often seek sites near campus development patterns with which they interact. Sites are typically 0.5 to 3 acres per user within a larger community commercial node of 10 to 200 acres.	Ownership varies with user requirements.	Premier West Bank (on HWY 62), Smith Barney	Usually on-site, but may be shared parking with adjoining commercial uses.

Type	Target Industries	Transportation; Access to Labor and Customers	Public Facilities/ Utilities	Site Sizes and Development Pattern Discussion	Ownership/Leasing Patterns	Local User Examples	Parking, Loading, Storage (Loading & Storage not major issues for Offices)
Small (1-40 employees; 400 to 13k square feet)	Sole proprietor or small partnership of professional service offices for Banking, Security & Commodity, Real Estate, Insurance Agents and Brokers, Business Services and Legal Services	Access to customer base is very important to consumer oriented users such as insurance agents/brokers and real estate agents/brokers. Transportation system that provides access to labor is important, but these users may have to compromise convenient access to labor as a cost saving measure. Executive housing concentrations are important for many small users, minimizing commute times for executives that don't rely upon specific locations. Proximity to Government offices may be a factor. These office uses can be served by all functional street classifications Airport access is important. Convenient public transportation may be a consideration, especially for a downtown site.	Water, sewer and storm drainage must be adequate. Site should have modern telecommunications, but may not always require it.	Downtown: These small user companies absorb smaller spaces downtown that are too small or have limitations for larger users. Site sizes downtown are predetermined by existing development patterns and to a lesser extent by redevelopment.	Most are done as leases. Some small ownerships are available through condominiums.	Stark and Hammack	Tends to utilize public supplied parking downtown that may include leases of public spaces.
				Business/Office Park: These small user companies absorb the smaller spaces in larger projects that are too small or have limitations for larger users or occupy expansion areas for medium and large users. Site sizes are typically driven by larger users except when small companies pool resources to occupy sites. Sites are typically 0.5 to 3 acres within a larger park of 30 to 100 acres.	Most space is leased. A collection of small users sometimes pool their resources to jointly own and lease back a medium sized building or site or as a condominium or pad lot.	Maentz Agency	Usually uses on-site surface parking at MLDC ratios.
				Commercial Centers: These small user companies absorb the smaller spaces in larger projects that are too small or have limitations for larger users or occupy expansion areas for medium and large users. These sites tend to be predetermined by the larger users. These sites are most important to consumer oriented users such as insurance agents.	Most space is leased.	Edward Jones Investments	Usually on-site, but may be shared parking with adjoining commercial uses.
				Residential to Office Conversions: These offices tend to be in older transitional areas where commercial and office uses are supplanting residential. Sites tend to be .12 to .75 acres.	These are typically owned by the company or companies' owner(s); ownerships is often the central issue in the decision.	Galbraith and Associates	Usually a combination of public on-street and private off-street. Parking can often be limiting factor.
				Home-Based Businesses: These offices exist within residences and the use is considered accessory to the residence. Site sizes are dictated by residential standards.	Ownership through home ownership is often central to the decision to operate a home-based office business.		No customer parking allowed under current MLDC. Business owner parking per residential standards.

COMMERCIAL RETAIL DEVELOPMENT PATTERN TYPES

Type	Target Industries	Transportation; Access to Labor and Customers	Public Facilities/ Utilities	Site Sizes and Development Pattern Discussion	Ownership/Leasing Patterns	Local User Examples	Parking, Loading, Storage
Large Retail Users (45k-500+k sq. ft.; and/or 15+ acres of outdoor storage)	Retail Trade (Regional Retail)	Transportation system that provides convenient connections and very high visibility from major arterial roadways and state highways is essential. Convenient public transportation may be a consideration, especially for a downtown site. Pedestrian traffic on public sidewalks is very important to downtown sites and elevated pedestrian connections between buildings can be important as well. Internal pedestrian traffic is essential for malls, and lifestyle centers.	Water, sewer and storm drainage must be adequate. Site must be able to be served by modern telecomm. Multiple energy suppliers may be a consideration.	Downtown: Downtown retail sites for large users typically occupy the ground floor and sometimes additional stories. They may occupy existing buildings or the lower floors of new multi-story office buildings. Large Downtown anchors are typically furniture stores and Department stores. Typical site sizes are .5 to 2 acres. Downtown anchors are no longer seen as vital to downtown revitalization, with smaller format unanchored specialty retail more common tenant types.	No known definitive ownership/leasing practices.	Joseph Winans Furniture	Parking is usually a combination of public and private and may be structured. Loading and storage needs can be limiting factor due to existing development patterns. Loading tends to be on-street or in alleys
				Regional Malls: Regional malls are a well-known development pattern and are large physical structures that contain a cluster of small and medium retailers anchored by three to seven large retail users in one to three stories. Large anchors are often Department stores. Some *outlet malls* are also configured in a traditional regional mall pattern. Typical site sizes are 3.5 to 10 acres within the larger 50 to 100+ acre mall site.	The large anchors sometimes own their building and portions of the Mall site. Otherwise they are done as triple net leases from the mall owner (often a commercial REIT).	Macy's, JC Penney	Use on-site shared parking that is sometimes structured. Loading is generally off-hours in designated areas, loading docks and/or vacant parking spaces, storage is almost always indoors.
				Open Air Centers: Lifestyle Centers are examples of newer trends in retail development patterns, a hybrid between an enclosed mall and a downtown. It has the concentration of retailers similar to an enclosed mall, but with open air pedestrian connections between stores similar to a downtown. Some newer *outlet malls* are configured in a lifestyle center pattern. Typical site sizes are 2.5 to 7 acres within the larger 25 to 60+ acre.[10]	The large anchors sometimes own their building and portions of the Mall site. Otherwise they are typically done as triple net leases.	Northgate Centre (Planned), SE Plan Commercial Area (Planned)	Use on-site, center-wide parking that is sometimes structured. Loading is generally off-hours in designated areas. Modern loading bays are one benefit of the lifestyle concept. Storage is almost always indoors.
				Large Format Retail: These are large auto oriented stores that house a collection of goods within a single store. A recent trend has seen smaller vendors co-locate within the larger store (Such as a McDonalds within a Wal-Mart). Individual user site sizes are typically 6 to 14 acres and large format retail tends to seek sites that are clustered with other large format retailers in regional commercial centers that are 55 to 350+ acres.	These sites are typically owned by the retail company or an affiliated real estate company.	Costco, Lowes	Usually use on-site surface parking that is sometimes structured and may be shared with adjacent properties. Loading is generally non peak-hours in designated areas, storage is mostly indoors, but some out.
				Vehicle/Equipment Salesplex: These are large vehicle and equipment sales yards that serve a wide regional market area. Typical site sizes are 15 to 40+ acres often within a larger cluster of 50 to 200+ acres of similar uses.	These sites are typically owned by the retail company or an affiliated real estate company.	Lithia HWY 62 Autoplex, AAA RV	Outdoor storage areas are dominant feature with surface customer parking on-site. Loading is often in designated areas on-site.

[10] This definition is broader than the typical definition of "Lifestyle Center" in the retail industry.

Type	Target Industries	Transportation; Access to Labor and Customers	Public Facilities/ Utilities	Site Sizes and Development Pattern Discussion	Ownership/Leasing Patterns	Local User Examples	Parking, Loading, Storage
Medium Retail Users (12k-50k sq. ft.; and/or 3 to15 acres of outdoor inventory)	Retail Trade (Community Retail)	Transportation system that provides convenient connections and very high visibility from major arterial roadways and state highways is essential. Convenient public transportation may be a consideration, especially for a downtown site. Pedestrian traffic on public sidewalks is very important to downtown sites and elevated pedestrian connections between buildings can be important as well, Internal pedestrian traffic is essential for Malls, and lifestyle centers	Water, sewer and storm drainage must be adequate. Site must be able to be served by modern telecom.	Downtown: Medium users tend to utilize one or two floors of an existing building. Downtown can be cost-prohibitive for some medium sized retail uses. Site sizes are dictated by existing development patterns or as a result of a large user or speculative development project. Second floor retail is typically seen as having limited appeal, unless a multi-floor tenant is found with ground floor presence.	Limited ownership opportunities may be a limiting factor. Leases prevalent.	Terra Firma	Tends to utilize public and private supplied parking downtown that may include leases of public spaces. Downtown sites rarely have outdoor storage. Loading often done in alleys and may be a limiting factor.
				Neighborhood Shopping Centers: Typically use 3-10 acres, with leasable area of 30,000 to 100,000. Centers are typically anchored by grocers. These centers serve localized populations, and typically locate near population concentrations.	Ownership or leases from affiliated companies are common and may be deciding factor.	Safeway, Albertsons, Walgreens	Usually use on-site surface parking at MLDC ratios.
				Community Shopping Areas/Centers: Typically use 10 to 30 acres, with leasable area of 100,000 to 450,000. Anchors often include junior department stores, large variety, discount or department stores.	Ownership or leases from affiliated companies common and may be deciding factor.	Target, Kohl's, Barnes and Noble, Thunderbird	Usually use on-site surface parking at MLDC ratios.
				Regional Malls: Regional malls are a well-known development pattern and are large physical structures that contain a cluster of small and medium retailers anchored by three to seven large retail users in one to three stories. Large anchors are often Department stores. Some *outlet malls* are configured in a traditional regional mall pattern. Typical site sizes are 3.5 to 10 acres within the larger 50 to 100+ acre mall site.	The medium anchors rarely own their building and portions of the mall site. Otherwise they are done as triple net leases from the mall owner, often a REIT	The Gap, Linens-n-Things	Use on-site, mall-wide parking that is sometimes structured. Loading is generally off-hours in designated areas or vacant parking spaces, storage is almost always indoors.
				Open Air Centers: Lifestyle Centers are examples of newer trends in retail development patterns, a hybrid between an enclosed mall and a downtown. It has the concentration of retailers similar to an enclosed mall, but with open air pedestrian connections between stores similar to a downtown. Some newer *outlet malls* are configured in a lifestyle center pattern. Typical site sizes are 2.5 to 7 acres within the larger 25 to 60+ acre site.	The medium anchors sometimes own their building and portions of the site – Otherwise they are typically done as Triple Net Leases.	Northgate Centre (Planned), SE Plan Area (Planned)	Use on-site, center-wide parking that is sometimes structured. Loading is generally off-hours in designated areas. Modern loading bays are one benefit of the lifestyle concept. Storage is almost always indoors.
				Vehicle/Equipment Dealership: These are medium sized vehicle and equipment sales yards that serve a community market area. Typical site sizes are 4 to 15 acres	Ownership varies with the user requirements.	Airport Chevrolet	Outdoor inventory storage areas are dominant feature with surface customer parking on-site. Loading is often in designated areas on-site.
				Truck Center: These are unique uses that serve regional shippers needs for quick services near statewide freight routes. Typical site sizes are 8 to 20 acres	Ownership varies with the user requirements.	Witham Truck Center	Surface tractor trailer customer parking is usually the dominant feature. Limited outdoor storage. Stacking for fuel stations is important.

Type	Target Industries	Transportation; Access to Labor and Customers	Public Facilities/ Utilities	Site Sizes and Development Pattern Discussion	Ownership/Leasing Patterns	Local User Examples	Parking, Loading, Storage
Small Retail and Commercial Services (200 to 15k square feet and/or less than 5 acres outdoor storage)	Retail Trade (specialty and neighborhood)	Transportation system that provides convenient connections and visibility from higher order roadways and state highways is important and essential for some users. Convenient public transportation may be a consideration, especially for a downtown site. Pedestrian traffic on public sidewalks is very important to downtown sites and elevated pedestrian connections between buildings can be important as well, Internal pedestrian traffic is essential for Malls, and Lifestyle Centers.	Water, sewer and storm drainage must be adequate. Site must be able to be served by modern telecom.	Downtown: Small retailers tend to seek ground floor downtown sites. Users tend to be specialty retail, restaurants, bars and similar uses. Site sizes are dictated by existing development patterns or as a result of a large user or speculative development project.	Most space is leased. Some small ownerships are available through condominiums.	Pacific Diamond Jewelers, Howie's on Front, Papillon Rouge	Tends to utilize public supplied parking downtown that may include leases of public spaces. These uses have small inventories so loading and storage is rarely a limiting factor.
				Free-Standing Shopping Center Pads: These uses are typically service commercial uses such as restaurants, bars and convenience retail such as convenience marts and fuel stations. Sites have very highest visibility within larger projects. Site sizes are .5 to 2 acres co-located within larger projects such as lifestyle centers, regional malls, clusters of large format retailers and community shopping centers.	Space is leased and owned. Many uses are corporate and seek sites with ownership.	Taco Bell, Hometown Buffet, Shell Station at the RV Mall, Dutch Bros	Usually uses on-site surface parking at MLDC ratios; may be shared parking with adjoining commercial uses. These uses have small inventories so loading and storage is rarely a limiting factor.
				Attached Boutique/Specialty: These retail sites are co-located within larger buildings that house anchor users in larger projects such as lifestyle centers, regional malls, clusters of large format retailers and community shopping centers. Small sites are the individual lease suites within larger site.	Most space is leased from larger building owners, often commercial REITS.	Starbucks, Island Juice, See's Candies, Various Small Retailers in the Mall	Usually on-site surface parking at MLDC ratios shared with adjoining commercial uses. These uses have small inventories so loading and storage is rarely a limiting factor.
				Neighborhood Commercial: Small stand alone users that usually locate along higher order transportation facilities and sometimes cluster with a few other similar sized users. These uses sometimes occur in residential to commercial conversion areas. These uses tend to be neighborhood service and convenience retail uses such as coffee shops and neighborhood markets. Sites are usually an acre or less within a smaller cluster up to three acres.	Space may be leased or owned.	Minute Market, Donut Shop	Usually on-site surface parking at MLDC or pre-existing ratios. Pre-existing ratios may be a limiting factor. These uses have small amounts of inventory so loading and storage is rarely a limiting factor.
				Stand-Alone Legacy Commercial Sites: Sites in older commercial areas that lack a cohesive development pattern or theme. This development pattern is often linear and arrayed along major transportation corridors. Sites are typically .5 to 4 acres arrayed within areas containing similar uses along with small scale industrial uses.	Space may be leased or owned. Ownership patterns tend to be fractured.	Rogue Ski Shop, Eddy's Hamburgers, Epic Ink	Usually on-site surface parking at MLDC or pre-existing ratios. Pre-existing ratios may be a limiting factor. These uses have small amounts of inventory so loading and storage is rarely a limiting factor.
				Vehicle/Equipment Sales Lots: Medium-sized vehicle and equipment sales yards that serve a community market area. Typical site sizes are .5 to 3.5 acres	Space is usually leased, but may be owned.	Downtown used car lots	Outdoor inventory storage areas are dominant feature; surface customer parking on-site.

INDUSTRIAL DEVELOPMENT PATTERN TYPES

Type	Target Industries	Transportation; Access to Labor and Customers	Public Facilities/ Utilities	Site Sizes and Development Pattern Discussion	Ownership /Leasing Patterns	Local User Examples	Parking, Loading, Storage
Large Industrial Users (90k-750+k sq. ft. built space/; and/or 20+ acres of outdoor inventory/production areas)	Lumber & Wood, Stone, Glass & Concrete, Trucking & Warehousing, Electric, Gas & Sanitation, Food Products, Transportation Equipment, Wholesale Trade, Air Transportation	Transportation system that provides convenient connections to state highways is very important, especially Interstate 5. Proximity to natural resources can be important for uses that utilize natural resource inputs. Rail access is important to many uses and can be essential for some uses. Convenient access to air freight is important to many uses and may be essential for some. Convenient access to well trained and qualified workforce is essential and industry clustering for access to skilled labor force is common. Convenient access to ocean ports is important to many users and essential for some.	Water, sewer, and storm drainage must be adequate; some of these uses can consume very large quantities of water and produce large quantities of sewage requiring special facilities plans. Site must be able to be served by modern telecomm. Multiple energy suppliers are important to most users and the ability to purchase wholesale energy can be essential for some.	Indoor/Outdoor Industrial Processes: Including Manufacturing, Repair, Remanufacturing, Salvage Yards, Micro-Energy, Agri-business, etc. These development patterns typically process raw materials into intermediate industrial input materials and include lumber mills, plywood plants, aggregate processing plants and co-gen power plants. These uses typically have moderate to high levels of airborne emissions, noise production, and waste products. Access to rail can be essential. Site sizes are typically 40 acres to 200+ acres and may cluster with similar uses in areas that are 1,000+ acres.	Typically corporate owned (or affiliate).	Timber Products, Boise Cascade	Uses can typically accommodate employee parking easily. These uses typically require large outdoor storage areas for raw materials. Large loading areas are typically needed for trucks and/or railcars.
				Logistics/Warehousing/Transportation Hubs: These development patterns are extremely transportation infrastructure sensitive and require sites with efficient and direct access to the transportation facilities they utilize. Some of these uses may not require proximity to large labor forces. These uses typically produce moderate to high levels of airborne emissions and noise associated with high volumes of truck traffic, rail yard activities, etc. Site sizes are typically 50 to 400+ acres and can cluster with similar uses in freight centers that are 2,000+ acres.	Usually sites are corporate or govt. owned, but many will include flex space for smaller users.	Rogue Valley Medford Intl. Airport, airport FBOs	Uses can typically accommodate employee parking easily. These uses are essentially one large storage/loading area with large amounts of land for indoor/outdoor storage and loading areas for trucks, railcars, and sometimes airplanes. Security can be a consideration.
				Transmission: Regional utility transmission facilities such as regional substations and 500kv lines. Noise, emissions and waste levels vary considerably from facility to facility. Site sizes are typically 20+ acres, although some uses can be very large such as solar arrays that cover thousands of acres.	Almost always corporate owned.	Lone Pine Substation	Parking, loading and storage needs are minimal; Security can be a consideration.
				Enclosed Manufacturing: These development patterns contain a wide variety of uses from food production to microchip processors and typically process intermediate materials into finished goods and/or parts. Uses are predominantly indoors within enclosed buildings. Convenient access to skilled labor force is essential. These uses typically have low to moderate levels of airborne emissions, noise production, and waste products. Site sizes are typically 20 to 200+ acres and users often require sufficient area to accommodate long-term expansion. Users may seek integration with office developments.	Typically corporate owned.	Harry and David Holdings, Sabroso Company	These uses can have large labor forces requiring large parking areas. Uses typically have large loading areas and some outdoor storage is usually required.
				Waste Handling: These development patterns include sanitary landfills, regional transfer stations, recycling plants, and sewage treatment plants and large salvage yards. Uses typically have large amounts of outdoor storage/processing. These uses typically have moderate to high levels of airborne emissions and noise production. Site sizes vary considerably from 20 acres to 150+ acres.	Typically corporate owned.	None in City; regionally, Rogue Disposal Landfill and water rec. facility	Uses can typically accommodate employee parking easily. These uses usually require large outdoor storage areas. Solid waste disposal facilities typically require large loading areas.
				Spec/Flex Space: Flex space development patterns are enclosed industrial uses where the buildings are developer/investor owned and space is rented to industrial tenants. Often multiple tenants occupy a single building. Low to very low levels of airborne emissions, noise production and waste products. Sites can be 20 to 150 acres.	REIT and and private equity ownership.	Fjarli Family Complex North of HWY 238	Flex space typically has employee and customer parking and a loading door for each suite. Little outdoor storage is utilized.

Type	Target Industries	Transportation; Access to Labor and Customers	Public Facilities/ Utilities	Site Sizes and Development Pattern Discussion	Ownership /Leasing Patterns	Local User Examples	Parking, Loading, Storage
Medium Industrial Users (25k-100k sq. ft. built space/; and/or 4 to 25 acres of outdoor inventory/production areas	Instruments, Electronic Equipment, Printing & Publishing, Transit Transportation Services, Business Services, Communication Construction, Lumber & Wood, Stone, Glass & Concrete, Trucking & Warehousing, Electric, Gas & Sanitation, Food Products, Transportation Equipment, Wholesale Trade, Air Transportation	Transportation system that provides convenient connections to state highways is very important, especially Interstate 5. Proximity to natural resources can be important for uses that utilize natural resource inputs. Rail access is important to many uses and can be essential for some uses. Convenient access to air freight is important to many uses and may be essential for some. Convenient access to well trained and qualified workforce is essential and industry clustering for access to skilled labor force is common. Convenient access to ocean ports is important to many users and essential for some.	Water, sewer and storm drainage must be adequate; some of these uses can consume large quantities of water and produce large quantities of sewage requiring special facilities plans. Site must be able to be served by modern telecomm. Multiple energy suppliers are important to most users.	Indoor/Outdoor Industrial Processes: Including Manufacturing, Repair, Remanufacturing, Salvage Yards, Micro-Energy, Agri-business, etc. Uses typically contain indoor activities, but typically more than 25 percent of the site is devoted to outdoor inventory and processes on individual lots. Convenient access to skilled labor force is essential. These uses often have very unique site requirements specific to each industrial processes. These uses typically have moderate levels of airborne emissions, noise production, and waste products. Site sizes are typically 6 to 25 acres and users often require sufficient area to accommodate medium-term expansion planning. Users often seek sites clustered in industrial areas of 100+ acres.	Mix of ownership and leasing.		Uses can typically accommodate employee parking easily. These uses include large amounts of land for indoor and outdoor storage and loading areas for trucks, railcars, and sometimes airplanes.
				Trucking/Warehousing/Distribution/Waste Transfer Substations/Staging: These development patterns are transportation infrastructure sensitive and require sites with efficient and direct access to the transportation facilities they utilize. Some of these uses may not require proximity to large labor forces. These uses typically produce moderate levels of airborne emissions and noise associated with high volumes of truck traffic and rail yard activities. Site sizes are typically 4 to 20 acres and can cluster with similar uses in freight centers that are 2,000+ acres.	Sites are corporate or developer owned, but may include some leased space for smaller users.	Gordon Trucking, Pacific Power, Gold River Distributing, Fed Ex	Uses can typically accommodate employee parking easily. These uses are essentially one large storage and loading area with large amounts of land for indoor and outdoor storage and loading areas for trucks, railcars and sometimes airplanes.
				Transmission: These are local and small regional substations, natural gas pressure reduction stations for local distribution, and micro power generation uses. These uses typically have low levels of airborne emissions, noise production, and waste products. These uses are typically 4 to 10 acres.	Almost universally corporate owned.	Biddle Substation	Parking and loading requirements are minimal. The facilities themselves are a type of outdoor storage.
				Enclosed Industrial Processes: Including Manufacturing, Repair, Remanufacturing, etc. Uses are predominantly indoors within enclosed buildings on individual lots with typically less than 30 percent of the site devoted to outdoor storage. Convenient access to skilled labor force is essential. These uses often have very unique site requirements specific to each industrial processes. These uses typically have low to moderate levels of airborne emissions, noise production, and waste products. Site sizes are typically 4 to 20 acres and users often require sufficient area to accommodate medium-term expansion planning. Users often seek sites clustered in industrial/business parks of 100+ acres and some may seek integrated projects with commercial and office patterns.	Usually corporate owned or affiliate owned.	Lighthouse Worldwide Solutions, Darigold, Medford Fabrication	These uses can have moderately sized labor forces requiring large parking areas. Uses typically have large loading areas and some outdoor storage is usually required. Rail and/or air loading areas are sometimes required.
				Personal Storage: Sites should be convenient for access from residential areas. Vehicle storage is typically outdoors while other storage is typically fully enclosed. Low to very low levels of airborne emissions, noise production and waste products. Sites can be 4 to 25 acres.	Some corporate and private equity ownership.	Numerous Examples	Employee parking is minimal. Customer parking/loading must be provided for use of each unit.
				Spec/Flex Space: Flex space development patterns are enclosed industrial uses where the buildings are developer/investor owned and space is rented to industrial tenants within a complex and usually there are multiple tenants occupying a single building. Low to very low levels of airborne emissions, noise production and waste products. Sites can be 4 to 25 acres.	REIT and and private equity ownership.	None	Flex space typically has employee and customer parking and a loading door for each suite. Little outdoor storage is utilized.

Type	Target Industries	Transportation; Access to Labor and Customers	Public Facilities/ Utilities	Site Sizes and Development Pattern Discussion	Ownership /Leasing Patterns	Local User Examples	Parking, Loading, Storage
Small (Less than 30k square ft built space and/or less than 5 acres outdoor inventory/production areas)	Instruments, Electronic Equipment, Printing & Publishing, Transit Transportation Services, Business Services, Communication Construction, Lumber & Wood, Stone, Glass & Concrete, Trucking & Warehousing, Electric, Gas & Sanitation, Food Products, Transportation Equipment, Wholesale Trade, Air Transportation	Transportation system that provides reasonably convenient connections to state highways is important. Rail access is important to some uses and is occasionally essential. Convenient access to air freight is important to many uses and may be essential for some. Convenient access to well trained and qualified workforce is essential and industry clustering for access to skilled labor force is common. Convenient access to ocean ports is important to some and can be essential.	Water, sewer and storm drainage must be adequate. Site must be able to be served by modern telecomm. Multiple energy suppliers are important to some users.	Indoor/Outdoor Industrial Uses: Including Manufacturing, Repair, Remanufacturing, Salvage Yards, Micro-Energy, etc. Uses typically contain indoor activities, but typically more than 25 percent of the site is devoted to outdoor inventory and processes on individual lots. These uses typically have moderate levels of airborne emissions, noise production, and waste products. Site sizes are typically 1 to 5 acres.	Mix of ownership and leasing.	American Salvage Inc. (White City)	Uses can typically accommodate employee parking easily. These uses need some land for indoor and outdoor storage and loading areas for trucks, but rarely railcars and airplanes.
				Enclosed Industrial Processes: Including Manufacturing, Repair, Remanufacturing, etc. Uses are predominantly indoors within enclosed buildings on individual lots with typically less than 30 percent of the site devoted to outdoor storage. Convenient access to skilled labor force is essential. These uses typically have low to moderate levels of airborne emissions, noise production, and waste products. Site sizes are typically .5 to 5 acres and users often require sufficient area to accommodate limited expansion. Users often seek sites clustered in industrial/business parks of 100+ acres and some may seek integrated projects with commercial and office patterns.	Usually corporate owned or affiliate owned.	New Stage Collision	These uses can have moderately sized labor forces requiring large parking areas. Uses typically have large loading areas and some outdoor storage is usually required.
				Personal Storage: Sites should be convenient for access from residential areas. Vehicle storage is typically outdoors while other storage is typically fully enclosed. Low to very low levels of airborne emissions, noise production and waste products. Sites can be .5 to 5 acres.	Most are private equity ownership.	Numerous Examples	Employee parking is minimal. Customer parking/loading must be provided for use of each unit.
				Flex Space: Flex space development patterns are enclosed industrial uses where the buildings are developer/investor owned and space is rented to industrial tenants. Often multiple tenants occupy a single building. Low to very low levels of airborne emissions, noise production and waste products. Sites can be .5 to 5 acres.	Most are private equity ownership.	Southgate-way Project LLC	Flex space typically has employee and customer parking and a loading door for each suite. Little outdoor storage is utilized.

CAMPUS/INSTITUTIONAL DEVELOPMENT PATTERN TYPES

Campuses are large and medium sized developments usually with a single or very limited set of ownerships. While the many uses within a campus can vary considerably, all the uses within a campus/institutional development are usually aimed at a common purpose or goal. The nature of this common purpose or goal is what shapes the design, site requirements and other characteristics of each individual campus/institutional development. For this reason, the below table describes the site characteristics according to the principal goal of each campus/institution; some uses are merely identified because their requirements will vary too greatly for each particular use.

Type	Target Industries	Transportation; Access to Labor and Customers	Public Facilities/ Utilities	Site Sizes and Development Pattern Discussion	Local User Example	Parking, Loading, Storage
Intellectual/Academic	Intellectual and academic campuses support the development of intellectual labor capital. Over time, intellectual development tends to intertwine with and support the target industry opportunities in communities where they exist.	The transportation needs for each campus depends on the type of campus and purpose of the campus. In general, intellectual campuses should have reasonably convenient connections to I-5 and have direct connections to two or more arterials. These uses are often served by public transit and can have high alternative transportation use if facilities are well planned. Good air transportation is essential for some.	Water, sewer and storm drainage must be adequate; some of these uses can consume large quantities of water and produce large quantities of sewage requiring special facilities plans. Site must be able to be served by modern telecomm and demands on telecomm facilities can be immense. Multiple energy suppliers can be important; the ability to purchase wholesale energy can be essential for some.	Major University/National Laboratory: These campuses serve statewide, national and international populations. These campuses are very large and are usually at least 50 acres and can be as large as a 1000+ acres. University campuses usually have on-site dormitories. A wide variety of accessory commercial uses is often necessary to serve the campus population. These uses need excellent connections to regional transportation systems and need convenient air service for passengers and freight.	None in region.	Loading and storage needs are minimal as a percentage of the overall site sizes for major universities. National labs sometimes require larger storage areas for outdoor scientific equipment. Significant amounts of parking are usually required and may be structured; TDM can successfully manage parking demands.
				Post-Grad Technology: These can be private and/or public and usually involve research and development. These campuses serve statewide, national and international populations. They vary in size considerably from less than 20 acres to 200+ acres. These uses need excellent connections to regional transportation systems and need convenient air service for passengers and freight.	None in city or region.	Loading and storage needs are not extensive, but some storage can be required for outdoor scientific equipment. Amount of parking is proportional to the campus. TDM can successfully manage parking for large campuses.
				Small College/Community College: These campuses serve regional populations primarily. These may or may not have on-site dormitories. Campuses are typically 20 to 40 acres outside downtown areas. These campuses are sometimes arrayed like a large office when they are located in a downtown area.	RCC, SOU in Ashland	Some community colleges have trade programs that require loading and storage areas. Most do not require significant loading and storage. Significant amounts of parking are usually required and may be structured; TDM can successfully manage parking demands.
				Junior High School/High School: These campuses serve local and regional populations and can be public or private. Campuses are typically 15 to 40 acres. Findings sites that balance the need to be near residential centers and sites that have access to local and regional transportation networks can be challenging.	North Medford High, South Medford High	Storage needs are not extensive. Student drop-off/pick-up areas are important. High schools demand more parking than junior highs. Parking demands can be reduced by extending bus services.

Type	Target Industries	Transportation; Access to Labor and Customers	Public Facilities/ Utilities	Site Sizes and Development Pattern Discussion	Local User Example	Parking, Loading, Storage
Medical	Healthcare	Transportation system that provides reasonably convenient connections to state highways is important. Heliport access is important for many and essential for some. Convenient access to well trained and qualified workforce is essential.	Water, sewer and storm drainage must be adequate; Site must be able to be served by modern telecomm and demands on telecomm facilities can be immense. Multiple energy suppliers can be important; backup energy supply.	Regional Hospital: These campuses serve regional populations. Regional hospitals can cause large-scale clustering effects with high degrees of interaction with office users (doctor's offices, surgery centers, clinics, etc) on surrounding lands. Regional Hospital sites are typically 20 to 40+ acres and clustered office areas around regional hospitals are typically an additional 50 to 100+ acres.	Providence, RVMC	Storage needs are not extensive. Emergency loading is essential and must include heliport. Parking demand can be considerable and may be structured.
				Community Hospitals: These campuses serve local populations. Community hospitals can cause medium-scale clustering effects with interaction with office users (doctors' offices) on surrounding lands. Sites are typically 8 to 15 acres and additional clustered office areas around a community hospital are typically 15 to 35 acres.	None in city; regional examples are Three Rivers and ACH	Storage needs are not extensive. Emergency loading is essential and usually requires heliport. Parking demand can be considerable, but is not usually structured.
				Specialty Hospitals: The campuses serve national populations and specialize in particular types of treatments. Sizes vary considerably and require use dependent planning efforts.	None in city or region	Use dependent.
Religious	N/A	Use Dependent.	Use Dependent,	These campus uses are not local places of worship. These are regional and national headquarters, seminaries and similar uses and are typically 15 acres or larger. The nature and configuration of these uses vary by purpose, but land use demands can be significant. Under RLUIPA, cities may occasionally need to plan for these uses.	None in city; or region	Use dependent.
Military	N/A	Use Dependent.	Use Dependent,	These are federally owned and operated, so they are exempt from Oregon Land Use Laws. However, they can have far reaching implications for land use planning and a City may need to revise its land use plan significantly if a new military institution or installation use is established.	In region, the VA DOM in White City	Use dependent.
Continuing Care Retirement Communities		These uses need reasonably convenient access to the regional transportation system and air services. Access to labor is important.	Water, sewer and storm drainage must be adequate; site must be able to be served by modern telecommunications.	These uses serve local, statewide and national populations. CCRCs are large retirement destinations. These uses have extensive residential components, but also require on-site healthcare, recreation facilities and many accessory commercial uses.	Rogue Valley Manor	Loading and storage needs are not extensive, but some storage can be required. Amount of parking is proportional to the campus.
Correctional	N/A	These uses are often not well served by transportation systems by intention.	Water, sewer and storm drainage must be adequate; site must be able to be served by modern telecommunications.	These uses serve regional, statewide or national populations. These may be super-sited, so they are exempt from Oregon Land Use Laws. Large correctional institutions can have far-reaching implications for land use planning and cities may need to revise land use plans significantly if a new correctional institution or installation use is established.	Downtown Courts/Justice Complex.	Use dependent.

UNIQUE DEVELOPMENT PATTERN TYPES:

In addition to the above four development pattern archetypes, there are unique development patterns/uses that can significantly affect employment land demands. Some of these uses and development patterns are identified and discussed individually below:

1. Overnight Accommodations: These uses vary in form and demanded amenities. Development patterns range can from RV Parks/campgrounds to downtown luxury hotels and everything in between. Because the market forces at work in the hospitality/accommodations sectors are so unique, it is difficult to project demand for the particular development patterns that may occur. However, some generalizations are appropriate. Based upon recent hotel construction activity, demand for additional accommodations near the airport and near I-5 interchanges appears likely. Considering the growth in the RV industry, the City may experience demand for additional RV campgrounds during the planning horizon. Another trend in the accommodations industry is the *extended stay executive suite concept*, especially around the medical centers.. These accommodations are like short-term apartment unit rentals; the numbers of employees who live outside Southern Oregon in the Johnson Gardner employment projections provide some explanation for this emerging accommodations niche.

2. Special Event Centers: There are a wide variety of uses that serve event functions. These uses can include fairgrounds, conference centers, performing arts centers and professional athletic venues. Some of these uses consume large amounts of land.

3. Cemeteries: These are land intensive employment land uses that may be best located within a City.

F. PROJECTED NUMBER OF SITES DEMANDED

The fourth and final step in establishing the City's land demand projections is to arrive at the number of sites expected to be demanded according to the above described development pattern types during the planning horizon. The first three steps included:

1. *Identify Target Industry Opportunities (Adopted as Part of Hovee Study in October 2006)*
2. *Employment Projections and Aggregate Land Demand by Type (Johnson-Gardner 2008)*
3. *Site Requirement Site Types Descriptions (CSA and Johnson-Gardner 2008)*

Thus, the final step in the process of estimating the demanded number of sites by type combines the information in Steps 2 and 3 to project the number of employment sites by type. Step 2 is a qualitative description of the types of sites that could potentially be demanded, based upon the City's target industry opportunities in Step 1. Geographic Information Systems (GIS) software was used to categorize employment lands according to the categories in the Site Requirement Type Descriptions. Because the site requirement descriptions are qualitative in nature, this is a laborious process and is subjective. The various factors utilized in categorizing lands include a review of aerial photography, assessor's data, the City's Buildable Land Inventory information, and local knowledge about the employment land base.

Because there are subjective components to this analysis, it is important to understand the assumptions utilized in the analysis. The principal assumptions relate to methodology for identifying and categorizing medium and large sites and these include the following:

- From the standpoint of total acreage, the vast proportion of the employment land base, approximately 83.5%, is consumed by sites larger than half an acre. Some of these are held for speculation and will be divided further, but the vast majority of these parcels are developed and used by going concerns.

- It is much easier to divide employment land into small parcels to meet the needs of smaller users than it is to aggregate small parcels in fractured ownerships to meet the needs of a larger user.

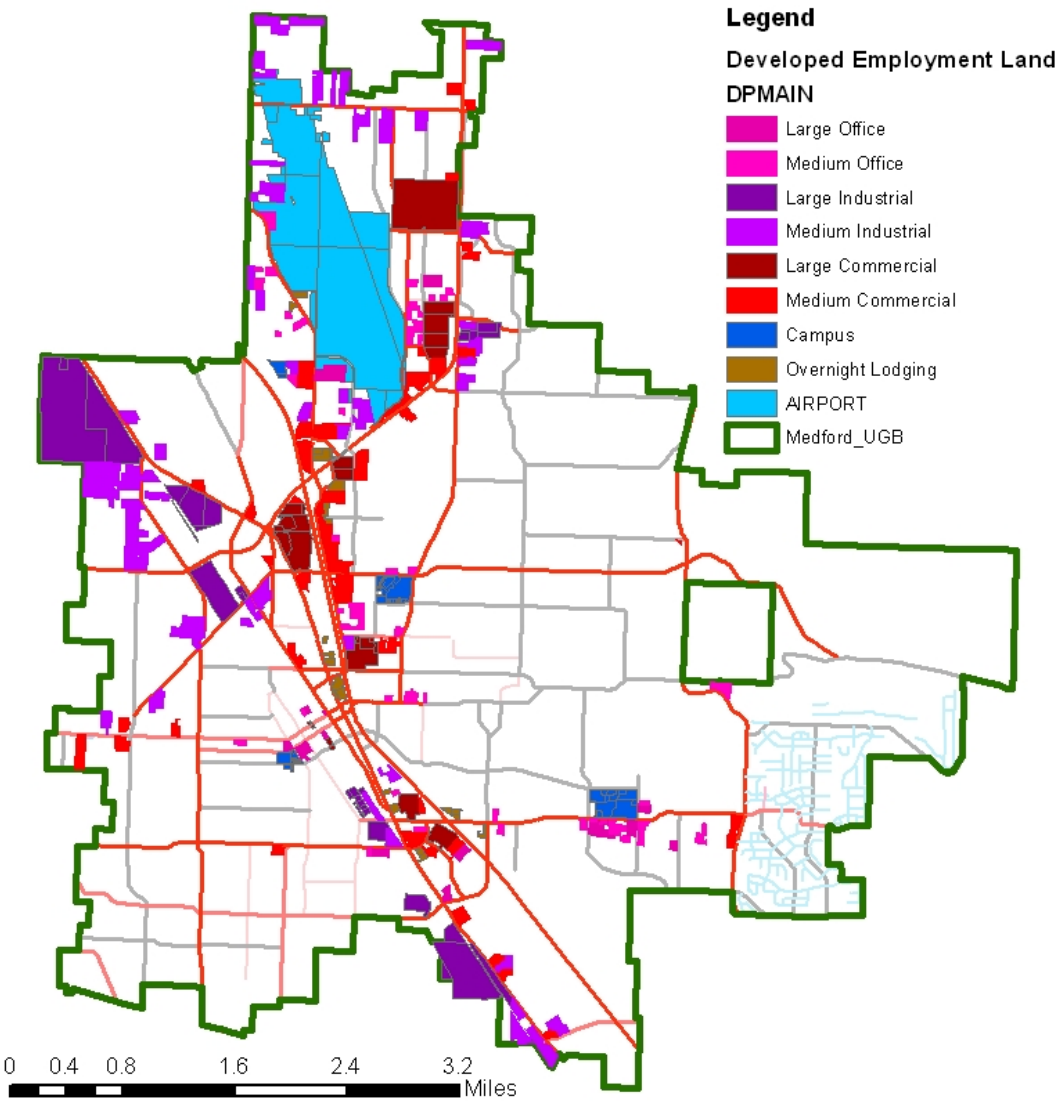
- The third assumption is derived from the above two and is also one of analysis practicality. There are over 3,800 employment planned properties in Medford's UGB and almost 29 percent of them are less than .5 acre. About another third are between .5 and 1 acre. Categorizing each of these carefully would be extremely labor intensive and not very meaningful. For this reason, <u>the most careful categorization is reserved for parcels larger than two acres.</u> A slightly more simplified categorization is done for parcels 1 to 2 acres. A simplified categorization is done for parcels between .5 and 1 acre. The analysis does not generally concern itself with parcels less than .5 acres; this is fully consistent with the parameters laid forth in OAR 660-009 that do not require inventorying of vacant lands less than .5 acres.

- Also important in this categorization process is the consideration of ownerships. As discussed above, parcels smaller than .5 acres are generally uncategorized. However, other factors in the analysis underscore where smaller parcels have been incorporated into larger sites. These are unlikely to be captured at 100 percent, but careful review of aerial photos

and database analysis can capture many of these important acreages that are properly categorized as large and medium sites.

The GIS database provides an estimate of the existing acreage of developed large and medium office, large and medium commercial retail, and large and medium industrial sites in the UGB. If this acreage is divided by the existing employment demanding space estimated by Johnson-Gardner, then a ratio of existing developed acres per job is calculated for medium and large sites for developed lands in the Medford UGB. The inventory information utilized for these calculations is depicted in Figure 22 for each development pattern category:

FIGURE 22: EXISTING DEVELOPED SITES IN MEDFORD'S UGB



This ratio can then be multiplied by the number of space-demanding jobs estimated by Johnson-Gardner (High, Medium and Low Scenarios) to arrive at the number of acres demanded for large and medium sites under each category of growth scenarios during the planning horizon. This calculation represents the number of sites demanded at the current ratio of space-demanding employment to existing large and medium sized development in the City for each category respectively. Finally, the number of demanded sites can be estimated by dividing the amount of additional demanded acreage by a typical site size for each category.

Once the estimate for large and medium sites is complete, then the estimate for small sites is derived by subtracting the acreage for large and medium sites from the total aggregate acreage estimated by Johnson-Gardner. This total acreage for small sites is then divided by a typical small site size to arrive at the potential number of small sites to be demanded depending on the supply levels of large and medium sites. Figure 23 provides the calculations for the main employment land categories. It uses existing development to project demand for sites in three categories: industrial; commercial;/retail/ office/commercial.

FIGURE 23: NUMBER SITES BASELINE CONDITION							EXISTING RATIO CALCULATIONS		
		TYPICAL SITE SIZE (ACRES)	EXISTING RATIO = EXISTING ACREAGE OF SITES/TOTAL OFFICE EMPLOYMENT	2008-2028 ACREAGE ESTIMATE = 2008-2028 OFFICE EMPLOYMENT GROWTH ESTIMATE * EXISTING RATIO			NUMBER OF DEMANDED SITES UNDER EXISTING RATIO= ACREAGE ESTIMATE/TYPICAL SITE SIZES		
				MEDIUM	HIGH	LOW	MEDIUM	HIGH	LOW
OFFICE/ COMMERCIAL	Large	5	**.001891** = 60.1 acres/31,806 office jobs	**24.4** acres= 12,896*.001891	**28.9** acres= 15,272*.001891	**19.5** acres= 10,285*.001891	**4.9 sites** =24.4 acres/5 acres	**5.8 sites**=28.9 acres/5 acres	**3.9 sites** = 19.5 acres/5 acres
	Medium	1.5	**.003299**=104.9 acres/31,806 office jobs	**42.5** acres= 12,896*.003299	**50.4** acres = 15,272*.003299	**33.9** acres = 10,285*.003299	**28.4 sites**= 42.5 acres/ 1.5 acres	**33.6 sites**= 50.4 acres/ 1.5 acres	**22.6 sites**= 33.9 acres/ 1.5 acres
	Small	0.45					Balance of estimate acreage / .45 acres per site = **# sites**	Balance of est. acreage / .45 acres per site = **# sites**	Balance of est. acreage / .45 acres per site= **# sites**
COMMERCIAL RETAIL	Large	20	**.02097** = 285 acres/13,578 retail jobs	**96.0** acres= 4,576*.02097	**112.8** acres= 5,377*.02097	**77.2** acres= 3,681*.02097	**4.8 sites** =96.0 acres/20 acres	**5.6 sites**=112.8 acres/20 acres	**3.9 sites** = 77.2 acres/20 acres
	Medium	1.5	**.01910**=259 acres/13,578 office jobs	**87.4** acres= 4,576*.01910	**102.7** acres = 5,377*.01910	**70.3** acres = 3,681*.01910	**19.4 sites**= 87.4 acres/ 4.5 acres	**22.8 sites**= 102.7 acres/ 4.5 acres	**15.6 sites**=70.3 acres/ 4.5 acres
	Small	0.75					Balance of estimate acreage / .75 acres per site = **#sites**	Balance of est. acreage / .75 acres per site = **# sites**	Balance of est. acreage / .75 acres per site= **#sites**
INDUSTRIAL	Large	30	**.02882** = 354 acres[11]/12,273 jobs	**102.9** acres= 3,571*.02882	**120.9** acres= 4,193*.02882	**82.9** acres= 2,875*.02882	**3.4 sites** =102.9 acres/30 acres	**4.0 sites**= 120.9 acres/30 acres	**2.8 sites** = 82.9 acres/30 acres
	Medium	6.0	**.03535**=434 acres/12,273 office jobs	**126.2** acres= 3,571*.035351	**148.2** acres = 4,193*.03535	**101.6** acres = 2,875*.03535	**21.0 sites**= 126.2 acres/ 6 acres	**24.7 sites**= 148.2 acres/ 6 acres	**16.9 sites**=101.6 acres/ 6 acres
	Small	1.5					Balance of estimate acreage / 1.5 acres per site = **# sites**	Balance of est. acreage / 1.5 acres per site = **# sites**	Balance of est. acreage / 1.5 acres per site= **# sites**

[11] A manual adjustment was made to the large industrial acreage. Boise Cascade has 130+ acres inside the UGB that have never been used for significant industrial activity. This acreage constituted a large percentage of the total large industrial acreage. Therefore, it was removed from the existing conditions even though the land is technically included in the inventorying methodology of OAR 660-009.

The Figure 23 calculations provide a sound factual basis for the City to project the number of demanded sites. However, it is not appropriate to overstate the precision of this type of generalized analysis. For this reason the upper and lower extremes of the projections should be treated as a range of potential demand. The number of demanded sites above is rounded to the nearest tenth. Because fractions of sites are not meaningful, the actual demanded number of sites listed in the summary at the beginning of Section V (F) round the low end of the range down and the high end of the range up to capture the potential variability in this type of long-range projection and to build flexibility into the City's Comprehensive Plan.

In addition to the precision issues, there is one development pattern in particular that is unique from a land supply and demand perspective because of its relationship to the market and tenancy. SPEC/FLEX industrial space may require unique demand and supply considerations, because it is one of the only employment land uses that often involve significant vertical construction without specific tenants identified prior to vertical construction. This type of on-demand space can be very important for business incubation and expansion, but to serve its proper market function it requires sufficient levels of vacancy to respond to peak demand periods.

The demand projections provide a baseline guide upon which to project future demand for numbers of sites by development pattern type. During its review, the project advisory committee recommended emphasizing the need for large and medium retail and office sites. The following explains the emphasis for these large and medium uses:

1. For large and medium office development patterns, a 210 percent emphasis on future distribution is captured in the demand projections. In other words, the planned employment growth from 2008 to 2028 will see more than a 2:1 increase in the ratio of large and medium office uses for each office-demanding employee.

2. For large commercial development patterns, a 140 percent emphasis on the future distribution over the existing distribution was projected. This distribution reflects a moderate strengthening of Medford's position as the region's retail center.

3. For medium commercial development patterns, a 160 percent emphasis on the future distribution over the existing distribution was projected. This distribution reflects a moderate strengthening of Medford's position as the region's retail center.

VI. EXISTING GLUP LAND SUPPLY AND SUITABILITY ANALYSIS

A. INTRODUCTION

The Land Supply and Suitability Analysis component of the Economic Element investigates the supply and suitability of employment lands in the City of Medford's UGB to serve employment land demands over the planning period. The analysis of employment land supply is an iterative analysis, where the iterations refine the supply estimates in relation to projected demand. The analysis includes both quantitative and qualitative dimensions. The quantitative dimensions are derived primarily from Geographic Information System (GIS) analysis using assessor's base maps and Buildable Lands Inventory information provided by the City Medford; some additional quantitative analysis utilizes value data provided by the Jackson County Assessor. The qualitative dimensions are derived from local area knowledge and development constraints analysis and are targeted to assess the suitability of particular sites to meet the needs of firms. The supply analysis includes assessments of both short-term and 20-year land supplies as required by OAR 660-009. The below list describes the iterative process to evaluate the City's employment land supply.

1. Buildable Land Inventory Base Maps: This task was completed by the City of Medford with an ending buildable lands date of March 2007. These GIS maps identifying vacant and potentially redevelopable lands were provided to CSA Planning and Johnson-Gardner and provided the preliminary data set for further analysis.

2. Vacant Lands Analysis by Existing Land Use Designation: Vacant lands are the least complicated supply source for employment lands and are, therefore, the first level of analysis. The vacant lands analysis is less complicated because it does not involve assumptions and policy choices about the viability of existing development patterns to be discontinued and replaced with new development patterns to serve future needs. This analysis then compares the amount of land available to projected demand. This is done in terms of aggregate land demand and by major development pattern type.

3. Redevelopable Lands: The second iteration of the analysis identified potential sites where intensification of use could occur that would allow higher employment densities and more efficient land use.

4. Comprehensive Plan Amendments: The third iteration of vacant land supply analysis considers the ability of map amendments and/or designation text amendments to address deficiencies in the land supply.

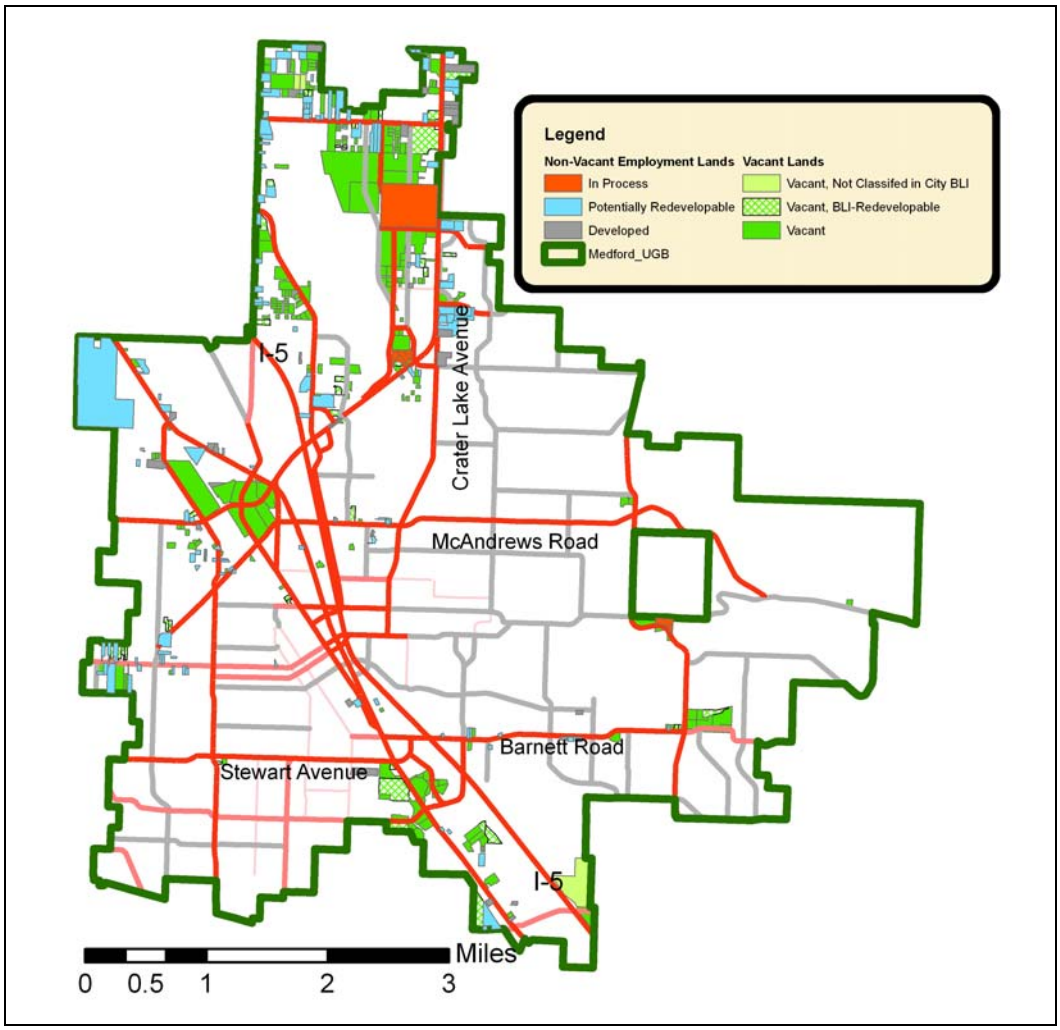
    a. Changes Under Existing Land Use Designations: This analysis contemplates changes in map designation descriptions and permitted uses to address identified deficiencies.

    b. New Land Use Designations: This analysis considers amending the City's land use regulations and maps to address balancing land supplies with projected demand.

B. ANALYSIS OF EXISTING VACANT LAND SUPPLY BY EXISTING GLUP MAP

This section presents the vacant land supply analysis and evaluates the ability of existing land supplies within the UGB to accommodate projected employment land demands. The analysis only evaluates lands larger than 0.5 acres consistent with OAR 660-009. Parcels larger than 2 acres are analyzed most carefully because these parcels are most capable of accommodating large and medium sites or being divided to serve the needs of smaller users. For this reason, significant qualitative as well as quantitative analysis of these parcels is presented. Parcels between 1 and 2 acres also include some qualitative assessments. Parcels between 0.5 and 1 acre are treated strictly from an aggregate acreage standpoint. Figure 24 depicts the parcels of land classified as vacant and for which the balance of the analysis in this section is focused.

FIGURE 24: VACANT AND POTENTIALLY REDEVELOPABLE SITES IN MEDFORD'S UGB



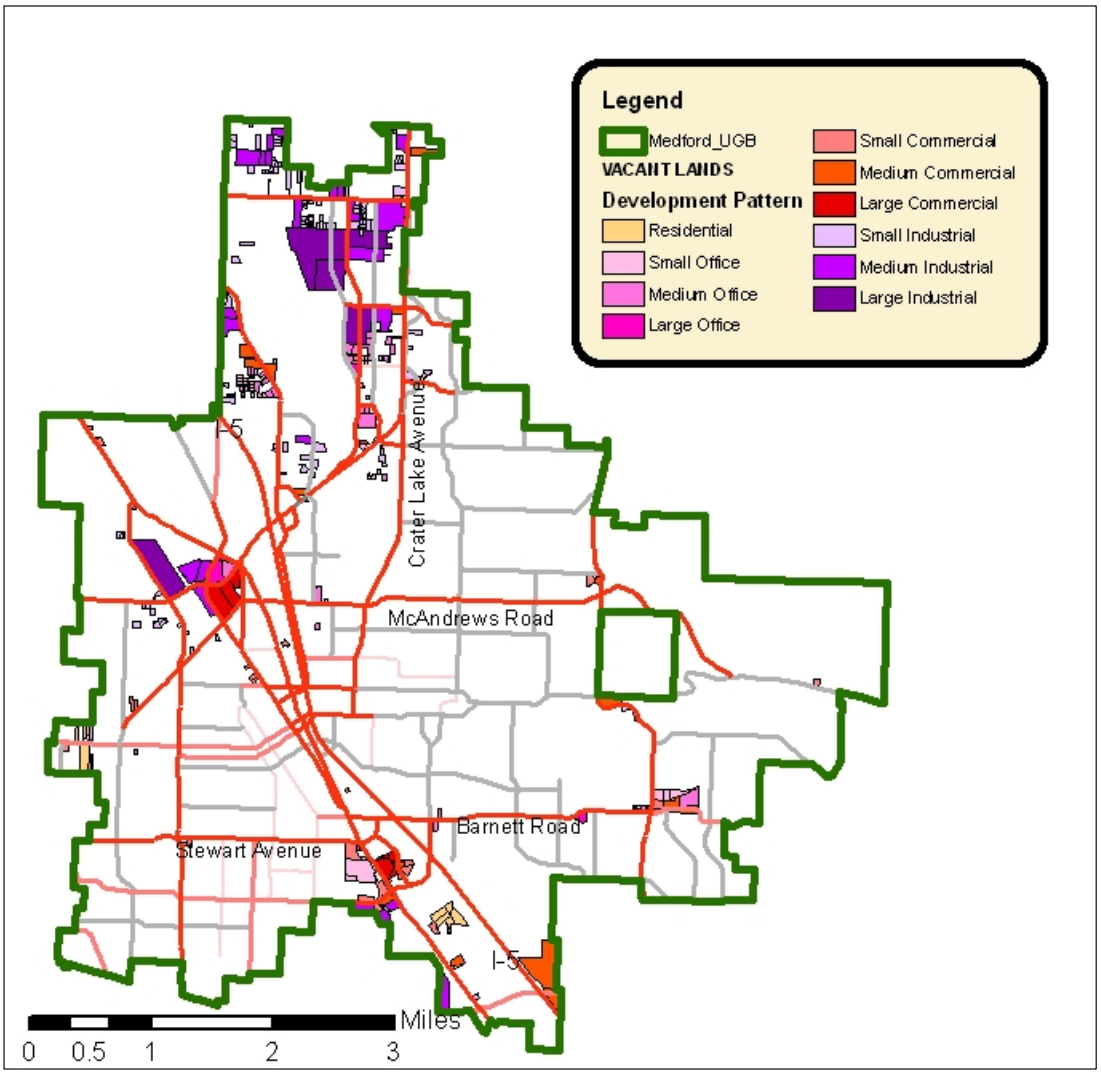
The vacant and potentially redevelopable lands map (Figure 24) represents a minor revision to the City's draft Buildable Lands Inventory maps that were based upon Spring 2007 data. The map includes all parcels in the draft BLI, as well as the noted revisions. The extent and nature of the revisions are small and due to a number of factors. Some properties were reclassified because they have been developed. A few large properties contained residential development, but are planned and zoned for employment uses. These were generally treated as vacant under the assumption that relatively small acreages would be removed if the dwelling were retained. Or if the dwelling would be removed entirely over the 20-year planning horizon, these will function as vacant employment lands .

The *In-Process* lands are currently under construction and are expected to be substantially complete by the end of 2008. The employment growth associated with these sites will be captured by the base year employment projections and therefore the balance of the vacant land analysis does not include these sites since they will be consumed within the year.

While some targeted redevelopment efforts have the potential to accommodate future development to serve employment demands, the City's vacant land base is the largest supplier of sites for future employment development.

Figure 25 identifies the vacant lands by major development pattern type. This map only depicts the primary development pattern category and some of these sites have been projected to accommodate additional development pattern types. This additional supply of sites is included in the subsequent summary statistics. Figure 25 depicts the lands analyzed as vacant in the balance of the Economic Element.

FIGURE 25: VACANT LANDS BY MAJOR DEVELOPMENT PATTERN TYPE



As the map indicates, vacant sites are largely clustered in a limited number of areas. One area is where the Northgate Centre project is planned as part of a Master Plan for that site. The other area is northeast of the airport. This area is experiencing development of an auto sales concentration. The Southeast Plan is awaiting a master plan effort for the commercial core area. Recently completed on the south end of town is the Stewart Meadows PUD, where Wal-Mart has been seeking approval of a super center. Finally, the airport area is experiencing development from Navigator's Landing and the siting of a new Marriott Hotel. The new terminal at the airport is under construction and this project may stimulate additional development in this area.

Figure 26 summarizes the supply of vacant lands by major development pattern type.

FIGURE 26: VACANT LANDS BY MAJOR DEVELOPMENT PATTERN TYPE

Sites Supply Summary								
		Sites		Acres				
		Number	Percent Short-Term	Total	Unconstrained	Percent Unconstrained	Short-Term Unconstrained Percent	Average Site Size
Office	Large	5	100%	21	21	100%	100%	4.18
	Medium	53	83%	80	66	82%	82%	1.52
	Small	93	89%	71	64	90%	79%	0.76
	Totals	**151**		**172**	**151**			
Industrial	Large	13	**38%**	256	207	81%	**40%**	19.71
	Medium	52	100%	223	206	92%	100%	4.29
	Small	107	98%	140	122	87%	97%	1.31
	Totals	**172**		**619**	**535**			
Commercial	Large	2	100%	59	52	89%	100%	29.27
	Medium	50	**22%**	133	102	77%	**46%**	2.67
	Small	66	92%	60	60	100%	93%	0.91
	Totals	**118**		**252**	**215**			
	Grand Total			**1043**	**900**			

The columns on the left in the above table summarize the total number of sites by type that are vacant in Medford's UGB. The percent short-term indicates the percent of the number of sites that are available as short-term supply. These are sites that could potentially be made available for construction within one year (See OAR 660-009 for Short-Term Supply definition). The above supply summary also considers the amount of acreage available for each site type. The total acreage is the acreage when no environmental constraints or other development constraints are removed. The unconstrained acreage is the acreage that is deemed to be free from site constraints and is therefore developable. Most of the constrained acreage is due to environmental factors with minor adjustments, where known development pattern constraints were present. No sites were removed to address long-term public facilities constraints.

- The typical site sizes utilized in the demand projections are similar to the average site sizes reported for the estimates of supply.

- It appears that most of Medford's supply is available for short-term supply. The exceptions are for medium commercial sites and large industrial sites. The constraints on the available short-term supply of medium commercial sites are caused by two sites in particular. One is the commercial site that is part of the Centennial Golf Course; this site has severe access constraints and is not viable as a short-term supply source. The other is the Southeast Medford Plan commercial core. This site requires Master Plan approval by the City. Until the master plan has been started, this site should not be counted as short-term supply. The large industrial short-term supply constraints are mainly northeast of the airport. These are largely public facility constraints due to storm drainage issues and capacity problems on Highway 62.

- From a constraint standpoint, most of the acreage for each category can be developed. The constraints analysis was fairly conservative and it will likely be possible that creative design components and engineering techniques will allow some of the constrained

acreages to be developed. For long-range planning purposes however, these sites are not required to be inventoried as supply under applicable regulations.

It is important to understand how the previously outlined summary statistics relate to the existing GLUP Map and its associated designations. Figure 27 summarizes the relationship between the projected supply of sites and the land use designations under which they are projected.

FIGURE 27: SUMMARY OF SITE ACREAGE BY EXISTING GLUP MAP

Site Acreage By Existing GLUP Map Summary						
		Commercial	Service Commercial	General Industrial	Heavy Industrial	Total
Office	Large	0	5	15	0	**21**
	Medium	1	28	51	0	**80**
	Small	1	18	52	0	**71**
	Totals	**2**	**51**	**119**	**0**	**172**
Industrial	Large	0	0	168	88	**256**
	Medium	0	0	109	114	**223**
	Small	7	0	91	43	**140**
	Totals	**7**	**0**	**367**	**245**	**619**
Commercial	Large	59	0	0	0	**59**
	Medium	129	0	4	0	**133**
	Small	64	1	0	0	**64**
	Totals	**251**	**1**	**4**	**0**	**256**

Figure 27 depicts the expected development pattern based upon recent development patterns, the map of vacant lands in Figure 25, and existing GLUP map designations. The vast majority of commercial acreage is located in the Commercial GLUP Map designation. Most of the office acreage is split between the General Industrial and Service Commercial designations. The industrial acreage is located mostly in the General and Heavy Industrial designated areas.

ANALYSIS OF CONSTRAINED SITES

Goal 9 requires cities to consider the site constraints of their land supplies. Figures 28 and 29 provide some generalized assessments of constraints. It is important to keep in mind that the environmental constraints are limited mainly to water. In the Medford Air Quality Maintenance Area, which includes all of Medford, there are also significant air quality constraints that may make it difficult or impossible to site many types of industries that otherwise could locate here. Additionally, the analysis does not consider land quality problems, such as brownfield sites, because there was no readily available geographic data upon which to perform constraints analysis.

FIGURE 28: SITE CONSTRAINTS MAP AND SUMMARY TABLE

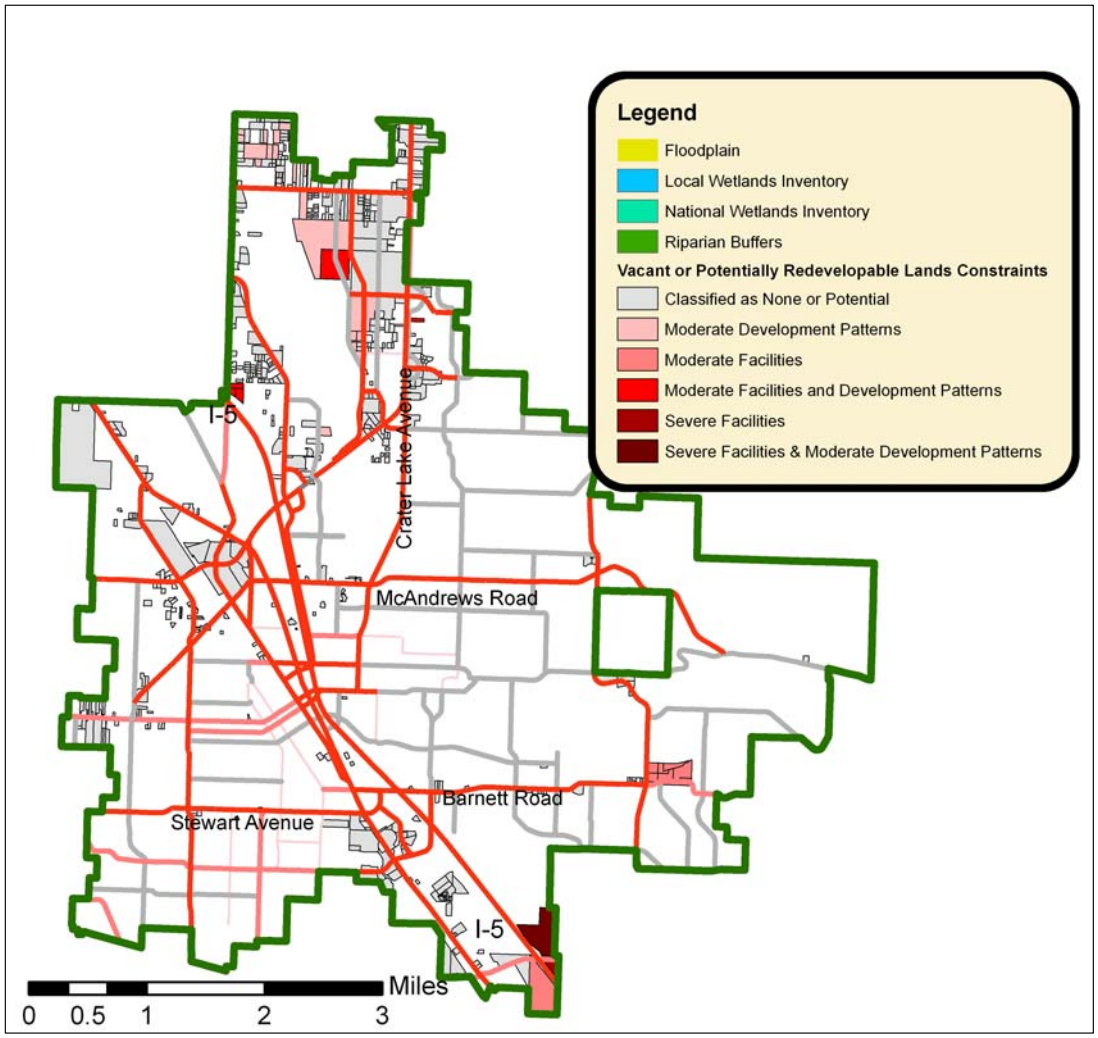


FIGURE 29: SUMMARY OF CONSTRAINED SITES TWO ACRES OR LARGER

Constrained Sites Two Acres or Larger			By Main Site Development Pattern			
			Environmental	Public Facilities	Development Patterns	Percent Moderate or Severe of Total
Office	Large	None	3	3	2	
		Potential	0	0	0	
		Moderate	0	0	**1**	
		Severe	0	0	0	**11%**
	Medium	None	6	11	7	
		Potential	3	0	3	
		Moderate	**4**	**2**	**3**	
		Severe	0	0	0	**23%**
	Small	None	22	22	22	
		Potential	0	0	7	
		Moderate	**7**	**7**	0	
		Severe	0	0	0	**16%**
Industrial	Large	None	3	2	1	
		Potential	1	3	1	
		Moderate	**2**	**1**	**4**	
		Severe	0	0	0	**39%**
	Medium	None	24	23	15	
		Potential	2	4	7	
		Moderate	**1**	0	**5**	
		Severe	0	0	0	**7%**
	Small	None	11	20	10	
		Potential	3	2	5	
		Moderate	**8**	**2**	**9**	
		Severe	**2**	0	0	**29%**
Commercial	Large	None	2	2	2	
		Potential	0	0	0	
		Moderate	0	0	0	
		Severe	0	0	0	**0%**
	Medium	None	8	7	11	
		Potential	1	3	5	
		Moderate	**15**	**3**	**8**	
		Severe	0	**11**	0	**51%**
	Small	None	24	25	23	
		Potential	0	1	5	
		Moderate	**4**	**2**	0	
		Severe	0	0	0	**7%**

As Figures 28 and 29 demonstrate, many Medford employment lands are relatively free from development constraints. However, a few employment categories are disproportionately burdened with site constraints. Again, it is primarily the large industrial sites and the medium commercial sites that are most constrained. Addressing the public facilities deficiencies on the industrial lands northeast of the airport and on commercial lands south of the Rogue Valley Manor would substantially improve the constraints limitations.

It is also important to consider that the environmental constraints analysis generally does not account for slopes. This is because very little of Medford's employment land base is sloped.

Nonetheless, sloped land is not usable for many employment development patterns and evaluation of future lands that are sloped should carefully consider whether those sloped lands can satisfy identified site requirements.

VALUE ANALYSIS OF EXISTING VACANT LAND SUPPLY BY EXISTING GLUP MAP

In addition to analyzing physical constraints and considering total acreages, it is helpful to also evaluate land values in assessing the supply of lands. The cross-tabulation in Figure 30 summarizes the mean value per acre for each development pattern by plan designation category.

FIGURE 30: MEAN VALUE PER ACRE BY GLUP MAP DESIGNATION

Existing GLUP Map vs Development Pattern		MeanValue per Acre (Vacant Sites)				
		Commercial	Service Commercial	General Industrial	Heavy Industrial	Running Mean
Office	Large	$0	$514,164	$277,904	$0	**$471,208**
	Medium	$131,937	$678,714	$483,891	$0	**$498,627**
	Small	$758,968	$559,420	$540,131	$0	**$548,140**
Industrial	Large	$0	$0	$64,800	$93,530	**$83,954**
	Medium	$0	$0	$175,431	$123,418	**$160,570**
	Small	$117,667	$0	$273,025	$230,864	**$259,267**
Commercial	Large	$692,427	$0	$0	$0	**$692,427**
	Medium	$679,600	$0	$292,524	$0	**$624,304**
	Small	$471,293	$762,755	$0	$0	**$481,344**
	Running Mean	**$538,790**	**$571,298**	**$366,009**	**$200,219**	**$400,389**

Figure 30 should not be relied upon as being fully accurate since there is the potential for small observation issues with this type of cross-tabulation. Furthermore, the problem can be exacerbated by an Assessor's data error. Nonetheless, the data reveals some interesting characteristics of the City's vacant land base. The analysis indicates that while the General Industrial designated lands can accommodate offices, the service commercial sites garner higher values for large and medium sites. The value of industrial sites is largely equivalent to Heavy Industrial and General Industrial designations, indicating that land planned and best situated for General Industrial is also valued as industrial. The high values for small industrial sites could be attributable to a number of factors. It is likely that at least some of these sites are being valued based on potential future use as commercial and/or office land. As one would expect, the commercial and service commercial land is more valuable than industrial.

There are still strong differences between Commercial and Industrial land use designations from a value standpoint when we evaluate all employment lands in the Medford UGB. An inferential statistical analysis procedure (Analysis of Variance) was used to compare differences and the differences were highly statistically significant. This indicates that the differences in value between commercial versus industrial land is not due to random chance and is likely explained by the designation itself[12]. The average value for commercial land is $492,801 per acre, and for industrial land is $261,444 per acre. These conditions are reflected in the following value graphs:

[12] The mean value for commercial land is $492,801 per acre and for industrial land it is $261,444 per acre. This difference produced an F-statistic of 138.1 indicating very high significance levels.

FIGURE 31: VACANT COMMERCIAL LANDS VALUE PER ACRE (PARCELS 1 ACRE OR LARGER)

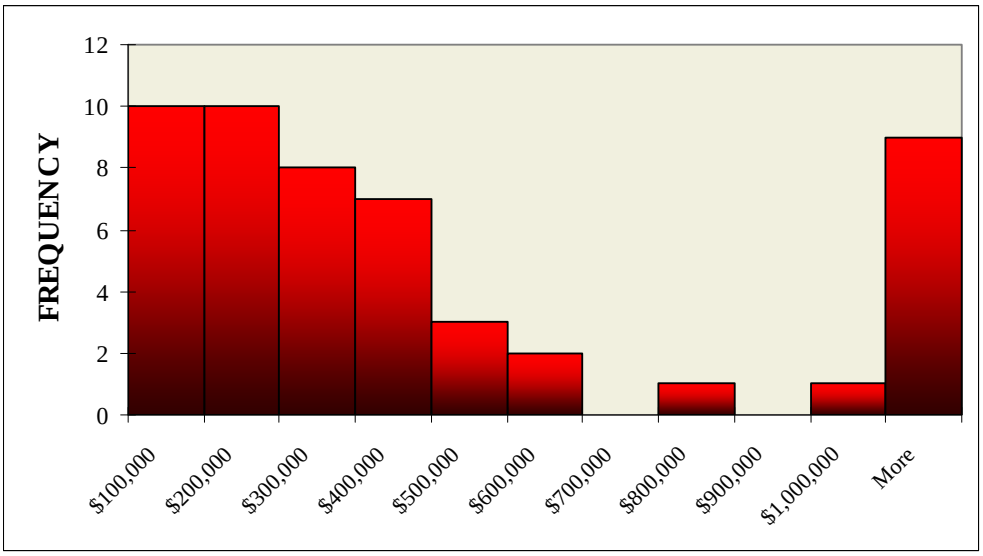
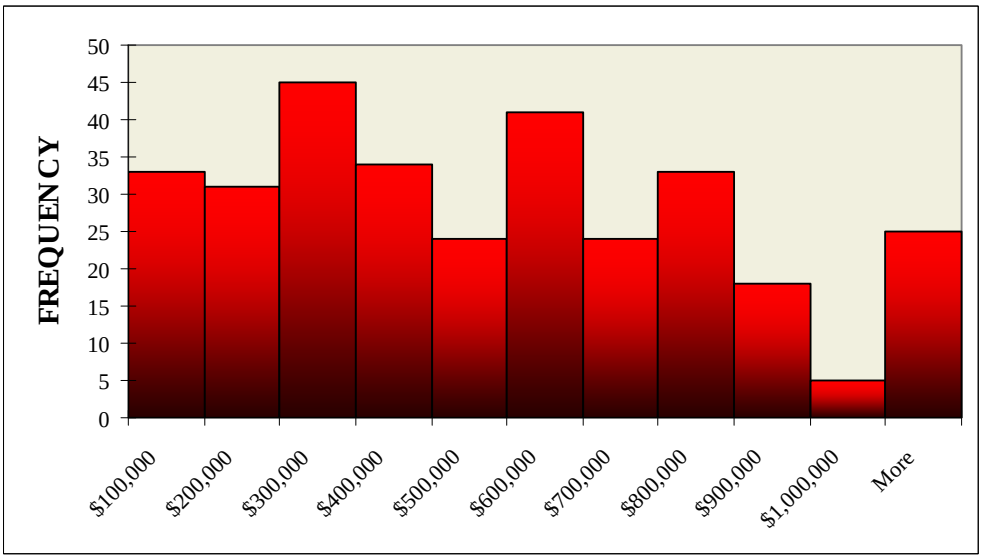


FIGURE 32: ALL EMPLOYMENT LANDS IN MEDFORD'S UGB (PARCELS 1 ACRE OR LARGER)



Figures 31 and 32 reveal interesting phenomena. First, the vacant lands graph has a large gap in the middle when compared to the graph that includes all lands. This is consistent with the findings depicting site constraints for medium commercial sites. Neither graph depicts a discernable pattern or curve; the frequencies appear random. There are a number of contributing

factors that combine to explain this phenomenon. Commercial uses tend to be location sensitive so marginal sites are far less valuable than premium sites, and this leads to more volatility. It is also likely an indication that the supply of commercial lands is constrained and that many of the sites that are available have limitations for commercial use. This is supported by the fact that a number of the lower value sites are actually vacant.

The range in variation observed in the value of Commercial land supplies is not seen in the City's industrial land base. Figures 33 and 34 present land values in the City for vacant lands and then for all industrial lands. These graphs depict the type of distributions expected for this type of data set. The distribution of industrial sites that includes all sites is consistent with expected distributions for this type of data. This discernable curve indicates a market that is functioning relatively well without any obvious constraints.

FIGURE 33: VACANT INDUSTRIAL LANDS VALUE PER ACRE (PARCELS 1 ACRE OR LARGER)

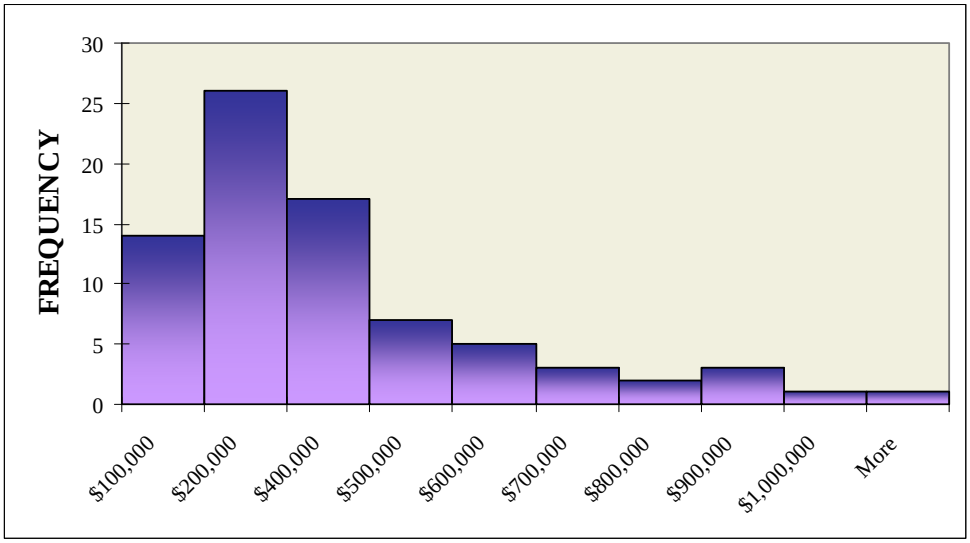
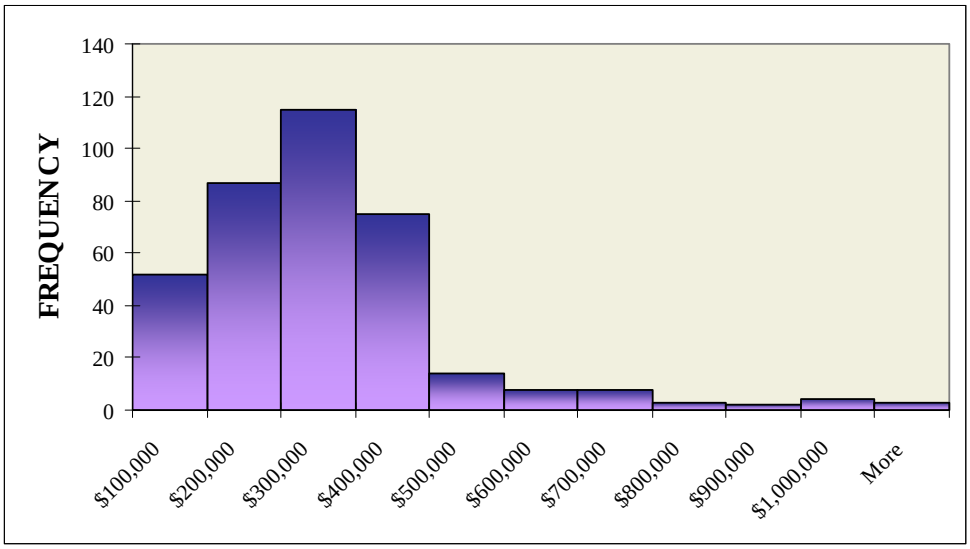


FIGURE 34: ALL INDUSTRIAL LANDS IN MEDFORD'S UGB (PARCELS 1 ACRE OR LARGER)



SUPPLY VERSUS DEMAND FOR VACANT SITES UNDER EXISTING GLUP

In addition to estimating acreages, OAR 660-009 requires cities to compare demand and supply for sites by type. The number of sites analysis does not generally exclude whole sites that have constraints; instead, site estimates considered the extent of the constraints and reduced the number or site type accordingly that could be accommodated. For example, if a commercial site was 12 acres but half the site was environmentally constrained, the inventory would assume the site could accommodate one medium commercial site and two small commercial sites, which is about half the number of sites that could otherwise be accommodated. In general, few sites were considered constrained to the point that eventual development during the planning horizon appeared impractical.

Figure 35 depicts the supply of vacant sites in relation to the demand for the ***number of sites over the planning horizon***.

FIGURE 35: SUPPLY AND PROJECTED DEMAND FOR SITES OVER THE PLANNING HORIZON

Number of Sites by Development Pattern						Planning Horizon			
		Demand Projections					Balance		
		Typical Acreage	Medium	High	Low	Vacant Supply	Medium	High	Low
Office	Large	5.00	9	11	8	5	-4	-6	-3
	Medium	1.50	55	65	44	53	-2	-12	9
	Small	0.45	468	554	373	93	-375	-461	-280
Industrial	Large	30.00	3	4	3	13	10	9	10
	Medium	6.00	21	25	17	52	31	27	35
	Small	1.50	114	135	92	107	-7	-28	15
Commercial	Large	20.00	7	8	5	2	-5	-6	-3
	Medium	4.50	31	37	25	50	19	13	25
	Small	0.75	163	220	186	66	-97	-154	-120

The most significant deficiencies are for large and small offices and for large and small retail sites. The large retail site deficiencies are likely to be the most difficult to address from a supply standpoint, because the site needs of large commercial uses are so stringent. The deficits for small office and small commercial projects are a function of the deficits for large offices/campus developments and large retail centers. The small sites tend to cluster around the large projects where they provide services and interact with the large sites. The surplus of large industrial sites is mostly due to only a few large industrial sites sitting vacant.

Figure 36 reports the supply of ***acreage by site type for the planning horizon*** and reconciles the supply with projected demand.

FIGURE 36: SUPPLY AND PROJECTED DEMAND FOR ACREAGE OVER THE PLANNING HORIZON

Vacant Acres Reconciliation (Constrained Acres Removed)						Planning Horizon			
		Demand Projections					Balance		
		Typical Acreage	Medium	High	Low	Vacant Supply	Medium	High	Low
Office	Large	5.00	47	56	38	21	-27	-35	-17
	Medium	1.50	83	98	66	66	-17	-32	0
	Small	0.45	211	250	168	64	-147	-186	-104
	SubTotal		**341**	**403**	**272**	**151**	**-190**	**-253**	**-121**
Industrial	Large	30.00	103	121	83	207	104	86	124
	Medium	6.00	126	148	102	206	79	57	104
	Small	1.50	172	202	138	122	-49	-80	-16
	SubTotal		**401**	**471**	**323**	**535**	**134**	**64**	**212**
Commercial	Large	20.00	134	158	108	52	-82	-106	-56
	Medium	4.50	140	164	112	102	-37	-62	-10
	Small	0.75	123	165	139	60	-62	-105	-79
	SubTotal		**397**	**487**	**360**	**215**	**-182**	**-272**	**-145**
Other	Over Night Lodging	Not Estimated	26	31	21	Not Estimated	-26	-31	-21
	Special Uses	Not Estimated	220	252	181	Not Estimated	-220	-252	-181
	Grand Totals		**1383**	**1644**	**1156**		**-483**	**-744**	**-256**

The largest acreage deficits are in the Office and Commercial categories. Deficits are also reported for overnight lodging and special uses. The overnight lodging sites are usually accommodated in commercial zones and this total can be considered in addition to unmet demands for commercial lands in the aggregate. The supply of lands for special uses, such as campus development patterns, was not estimated because the needs of each particular type of special use are so specific that identifying supply sources would be impractical.

The surplus of industrial lands is not extremely large and one large industrial use could easily consume the entire potential surplus. It is also important to keep in mind that approximately two-thirds of the office site needs are projected to be met on industrial designated lands. This is based on recent trends in the Medford area. The 2004 Hovee study recommended making some adjustments to the land use designations that would allow more office needs to be met by the industrial land base. However, the projected office and commercial land deficits are too large to be met solely through conversion of industrial lands without putting undue pressure on industrial land pricing.

In addition to estimating adequacy of supply over the planning horizon, Goal 9 also requires the City to assess whether a sufficient supply of lands is available in the short-term. *The short-term supply of land refers to suitable land that is ready for construction within one year of an application for a building permit or request for service extension. Engineering feasibility is*

sufficient to qualify land for the short-term supply of land. Funding availability is not required. "Competitive Short-term Supply" means the short-term supply of land provides a range of site sizes and locations to accommodate the market needs of a variety of industrial and other employment uses (OAR 660-009-0005(10). In accordance with the State's definition, short-term supply analysis criteria are more stringent. They do not include lands as a supply source if they cannot be consumed through straightforward extension of infrastructure and/or land use permitting processes without requiring some change to applicable regulations or the Comprehensive Plan.

FIGURE 37: RECONCILIATION OF SHORT TERM SUPPLY AND PROJECTED DEMAND

Vacant Acres Reconciliation (Constrained Acres Removed)						Short-Term			
		Demand Projections					Balance		
		Typical Acreage	Medium	High	Low	Vacant Supply	Medium	High	Low
Office	Large	5.00	12	14	9	21	9	7	11
	Medium	1.50	21	24	16	54	33	29	37
	Small	0.45	53	62	42	51	**-2**	**-12**	9
	SubTotal		**85**	**101**	**68**	**125**	**40**	**24**	**57**
Industrial	Large	30.00	26	30	21	83	58	53	63
	Medium	6.00	32	37	25	206	174	168	180
	Small	1.50	43	50	35	119	76	69	85
	SubTotal		**100**	**118**	**81**	**408**	**308**	**290**	**327**
Commercial	Large	20.00	34	39	27	52	19	13	25
	Medium	4.50	35	41	28	47	13	6	19
	Small	0.75	31	41	35	56	25	**15**	21
	SubTotal		**99**	**122**	**90**	**156**	**57**	**34**	**66**
Other	Over Night Lodging	Not Estimated	6	8	5	Not Estimated	-6	-8	-5
	Special Uses	Not Estimated	55	63	45	Not Estimated	-55	-63	-45
	Grand Totals						**343**	**278**	**400**

Over the short-term, the demand for small and medium industrial land does not appear to be an issue. Supply of adequate sites for a large industrial use is limited over the short-term, because the variance for site sizes for large industrial uses can be significant and one large industrial use that seeks a site could easily consume all available supply.

By combining the supply of acreage for Office, Commercial and other uses, the short-term supply could reach a critical masse because the only supply source comes from projected industrial sites. Essentially, the City has only 35 acres of vacant land left under the medium employment land demand scenario. This total includes Northgate Centre, Stewart Meadows PUD, and the balance of the Delta Center, approved projects that may be developed relatively soon. If additional lands are not supplied shortly after these projects are constructed and absorbed, demand on vacant

industrial lands could increase further in ways that could significantly diminish the City's employment land supply. While the City likely has two to six years before this condition could become reality, planning for additional land now is essential to avoiding a shortfall.

OWNERSHIP PATTERN ANALYSIS

In addition to evaluating acreages and development patterns, employment land supply analyses should also consider potential ownership pattern constraints. For the analysis, ownership patterns have been captured from several perspectives. Principally, ownership patterns were captured through the buildable lands inventory classification of sites, both vacant and developed. The analysis of large, medium and small sites relies on the ownership pattern assumption that large ownerships can be divided to serve the needs of smaller users more readily than small and fragmented ownerships can be aggregated to meet the needs of large and medium users.

When developed sites were inventoried and analyzed, this process was informed by local knowledge to capture ownership factors, such as:

1. Both Sabroso Company and Naumes Packing are located in a central area on a series of relatively small urban parcels with a range of corporate and affiliate ownerships. However, these small parcels collectively function as large industrial sites. Local area knowledge identified the related ownerships so that these large industrial sites were properly inventoried.

2. Both the Providence and RVMC Hospital Campuses contain many parcels/tax lots owned by the same or related sets of entities. These ownerships were inventoried as single campuses despite their fragmented parcelization.

3. The Fjarli Family's speculative industrial space north of Highway 238 was inventoried as a single speculative industrial lease space complex even though most of the buildings are on separate lots. The actual buildings are virtually identical and they are managed and were developed by a small group of related individuals.

4. The Rogue Valley Mall site actually contains several parcels that are held in distinct ownerships. However, the Rogue Valley Mall functions as a single development pattern.

As a general rule, the site supply analysis placed lands in the largest development pattern site supply category for which a site could meet the minimum size requirements. Throughout the vacant lands supply analysis process an attempt was made to capture adjacent parcels with related ownerships to place them in the larger supply categories. This was the case for numerous sites within the planning area, such as:

1. Burrill Resources owns two parcels northeast of the airport; the development potential of these parcels was projected assuming the parcels could be developed together because they are under the same ownership.

2. Development assumptions about lands owned by KOGAP were based upon the single PUD approval that captured these lands and was recently approved.

3. The middle quadrant of Northgate Centre contains a number of small remnant parcels on its north end. While these parcels are individually very small, they were inventoried as part of the larger Northgate Centre project from an acreage and potential site supply standpoint.

Ownership patterns were also captured in the redevelopment analysis components. The Project Advisory Committee analyzed ownership considerations for several sites, such as:

1. The ownership of the Boise site was central to the Advisory Committee's recommendations on how to inventory the redevelopment potential of this site.

2. The relatively few ownerships in the redevelopment area identified around Owen Drive and Highway 62 were considered an asset contributing to the likelihood of potential redevelopment of that area.

3. As for the Colvin Oil site, the main parcel's access is constrained in ways that would make redevelopment difficult, the Advisory Committee determined. However, ownership analysis identified Colvin Oil's recent acquisition of a small parcel that improves access to the company's underdeveloped acreage to the north.

These examples briefly represent the many quantitative ways that ownership patterns have been captured in the Economic Element land supply analysis. In addition to the quantitative components, the site requirements discussion also includes typical ownership patterns for the various site type development patterns. When the qualitative components of the site requirements discussion are combined with the quantitative analysis of site supply, the City has a land use policy framework that captures more than just raw acreages; it captures the arrangement of acrea by ownership patterns and the demand by firms looking to locate or expand within the City.

With respect to the applicable regulatory requirements, OAR 660-009-0025(7) permits cities to consider ownership constraints in assessing land availability to satisfy short-term supply requirements. This language is permissive and not mandatory. The best indicator of ownership constraints in the Economic Element update analysis is the land price evaluation. That analysis depicts expected market pricing for industrial land, but erratic pricing for commercial land. This suggests short-term supply constraints. As the City addresses its long-term deficiencies, short-term supply issues caused by ownership constraints will diminish as the city adds supply sources and as competition increases among various ownerships in the market place.

In summary, ownership constraints and opportunities are ephemeral phenomena because an ownership constraint or opportunity captured today can literally change overnight due to a change in land asset management strategies by individuals or corporations. The best that can be done is to make rational assumptions based on observed market patterns.

REDEVELOPMENT ANALYSIS

With the Vacant Lands analysis complete, the next step in the supply analysis is to estimate the amount of land that can be redeveloped to accommodate future demands. The City performed a buildable lands analysis to serve as the foundation for the land supply analysis with data from 2007. That buildable lands analysis identified vacant lands which were analyzed in the above sections and potentially redevelopable lands analyzed in this section. The analyzed lands are depicted in blue in Figure 24. Redevelopment analysis methodology can be challenging. Ownership patterns, existing development patterns, and particular site specific issues can significantly affect the likelihood that a site will redevelop to accommodate future demands.

Another challenge associated with redevelopment analysis for employment lands is estimating the amount of acreage necessary to replace the land being redeveloped. For example, if an automobile junkyard is redeveloped with a commercial use, the junkyard will still need to be located somewhere. This illustrates a re-organization of the City's land base, not a significant

net increase in the land supply. The need for replacement lands is also highlighted by the statutes governing the formation and operation of urban renewal districts. Urban Renewal Districts are often catalysts for redevelopment, partly because urban renewal statues provide mechanisms to fund replacement sites as part of the renewal plan. This enabling language in the statutes speaks to the State Legislature's recognition there should be balance between community goals to redevelop core areas and the adverse impacts if the new firm is not a good fit for the urban renewal plan.

For the above reasons, redevelopment supply analysis within the UGB is most concerned with the ability of existing developed sites to redevelop in a manner that will function as net new supply. The approach taken to resolve this issue for the Medford Economic Element was to utilize a combination of mathematical analysis and local knowledge provided by the project advisory committee. In the case of a city the size of Medford, the total number of parcels that are likely to supply significant net acreage through redevelopment is relatively small; these tend to be large and relatively few parcels, of which only a portion could be developed. The project advisory committee evaluated each parcel larger than five acres on a case by case basis (See Figure 24). Supply from parcels smaller than five acres was estimated mathematically, because there are much more of these. Still, the total acreage of potential redevelopment is comparatively small.
Figure 38 includes a summary of the analysis of potentially redevelopable parcels larger than 5 acres:

FIGURE 38: SUMMARY OF THE ANALYSIS OF REDEVELOPMENT SITES LARGER THAN 5 ACRES

Redevelopent Sites Larger than 5 Acres					Planning Horizon								
	Maplot	Fee Owner	Parcel Size	GLUP	Advisory Committee Recommendations	Total Redevel-opment Acres	Net Redevelop-ment Acres	Primary Site Supply		Secondary Site Supply		Site Replacement	
Parcels	371W08C300	ELLIOTT GENEVIEVE E TRUSTEE	5	GI	Redevelop as Commercial	4	0	SMALL COM.	2	N/A	0	SMALL IND.	1
	362W36A500	HUGHES/DODD CO	5	GI	Potential Revelopment as Industrial-Need Replacement	5	0	SMALL IND.	0	N/A	0	SMALL IND.	1
	371W08C100	MEDFORD READY-MIX CONCRETE	5	GI	Redevelop as Commercial No Need to Replace	3	3	LARGE COM.	0.5	N/A	0		
	371W051000	ROGUE VALLEY PROPERTIES INC	5	GI	Redevelop as Commercial Need to Replace	4	0	SMALL COM.	3	N/A	0	SMALL IND.	1
	361W32C400	OWEN BARBARA	5	CM	Revelopment East of Creek as Industrial	2	2	SMALL IND.	1	N/A	0		
	362W36D400	ZIEMINSKI BERNIE TRSTE FBO	5	GI	Potential Redevelopment as Industrial	2	2	MED. IND.	1	N/A	0		
	372W13AA103	CEARLEY ENTERPRISES INC	6	GI	Potential Redevelopment as Industrial or V/E D	4	4	MED. IND.	1	N/A	0		
	372W01A5200	BEVER CHERRY ET AL	7	GI	Potential Redevelopment as Industrial	6	6	SMALL IND.	3	N/A	0		
	371W08C600	PCBP PROPERTIES INC.	7	GI	Redevelop as Commercial	7	0	MED. COM.	1	N/A	0	MED. IND.	1
	372W26AD2400	ROGUE VALLEY CHILDREN DISCOVERY	7	CM	Redevelop as Commercial	4	4	MED. COM.	1	SMALL COM.	3		
	361W31C4000	D S M INCORPORATED/1	12	GI	Potenial Industrial Redevelopment and add land to west	12	12	MED. IND.	2	N/A	0		
	372W13CC201	SIERRAPINE	9	HI	Potential Redevelops as Industrial	7	7	MED. IND.	1	N/A	0		
	371W08C200	MEG LLC	9	GI	Redevelop as Commercial No Need to Replace	7	7	LARGE COM.	0.5	N/A	0		
	381W05D600	COLVIN STATIONS INC	10	HI	Redevelop as Industrial	6	6	MED. IND.	1	N/A	0		
	371W18BC400	PETERSON MACHINERY CO.	12	GI	Not Likely to be Redeveloped	0	0	MED. COM.	0	N/A	0		
	372W14300	BOISE BUILDING SOLUTIONS MA	167	HI	Redevelopment of 50 acres due to statute/ownership	50	50	LARGE IND.	1	MED. IND.	3		
	Total		**277**			**122**	**102**						

Figure 38 depicts the redevelopment potential of parcels larger than 5 acres identified as potentially redevelopable when the project advisory committee examined each site. The results underscore the discussion regarding the challenges associated with assessing redevelopment potential of employment lands. The local area knowledge included specific inventory recommendations for each site.. It would be difficult to effectively capture this information with a statistical model.

The site with the single largest implication was the Boise site and there was considerable discussion about this parcel by committee members, planning staff and the consultant team. Constraints to the site's development include a statute limiting annexation of those properties and large corporate ownership. The site is taxed as farmland; therefore the holding costs to Boise are very low and may not be worth risking future expansion of the wood products facility in this area. Moreover, Boise Cascade is a large corporation with a number of industrial processes, and this site could be used to site a completely new type of facility. The site appears to have transportation constraints that would limit the ability to rezone it without some significant upgrades. At the same time, the committee did recognize that assuming no development of this land over the next 20 years could also be unrealistic and could present Goal 14 issues in the future. The Committee ultimately recommended the Economic Element assume that approximately half of the site will be developed during the planning horizon and that the other half would not be available.

It is also worth noting that the project advisory committee identified another relatively large parcel that could be well situated for ultimate redevelopment. The Medford Gun Club owns approximately 50 acres in northeast Medford. While most all of the site is currently utilized and has been for many years, this site is also a potential redevelopment site. There are no known plans to redevelop the site. However, the site is well situated for industrial uses and perhaps other employment uses as well.

In one particular instance, the project advisory committee recommended redevelopment, but under a different GLUP designation. This recommendation is for the lands to the west of the Owen Drive/Highway 62 intersection. This is important because the balance of the supply analysis presented in the Economic Element does not contemplate any significant land use changes. In this instance, however, the remaining supply analysis assumes these sites to redevelop as commercial. Replacement acreage is not expected for aggregate uses as these will likely relocate outside the planning area, but the other trucking uses in this area are assumed to require industrial replacement acreage.

With the main redevelopment potential from a total acreage standpoint assessed on a site-by-site basis, the balance of potential redevelopment was mathematically estimated. This estimation assesses the likelihood a site will redevelop and then estimates the amount of replacement acreage necessary to accommodate the displaced employment use. The analysis methodology to estimate the total redevelopment acreage for parcels less than 5 acres is as follows:

1. The City's redevelopable parcel base was used as a starting point (for those parcels that further analysis did not already treat as vacant and/or developed).
2. Real market value (land and improvements) was divided by square footage for individual parcels to establish an estimated value per square foot of the property.
3. The estimated real market value of improvements was depreciated over the 20-year period assuming a 40-year straight line depreciation schedule. The resulting estimate value per square foot of the property was then calculated.

4. Threshold values were established by major GLUP designation in 2008 dollars. The threshold rate for commercial land was set at $14 per square foot, service commercial at $10 per square foot and industrial at $5.00 per square foot.
5. Those parcels that were projected to have values depreciate below threshold rates (in 2007 dollars) are assumed to redevelop during the planning horizon.

Ultimately, the Economic Element is most concerned with total land supplies to meet projected needs. This means the total redevelopment acreage should be adjusted to account for some replacement of displaced employment uses that now exist to arrive at net redevelopment acreage estimates. This can be expressed as a percent. For example, redevelopment that is assumed to require a 20 percent replacement factor is 180 percent more efficient than the existing land use because the existing site becomes 100 percent developed and the displaced use is assumed to be able to be accommodated on 20 percent of the site on which the use now exists. The following estimates the replacement factors utilized in the Economic Element for sites less than five acres:

1. The replacement factor for Commercial Land is projected to be 20 percent. Thus, 20 percent of the land that is Commercial and projected to redevelop is planned to be replaced elsewhere in the planning area.

2. The replacement factor for Office land is projected to be 20 percent for land zoned Service Commercial and 30 percent for land zoned General Industrial. The higher percentage for general industrial was utilized because general industrial uses are often more space intensive and will require more replacement acreage.

3. The replacement factor for Industrial land is projected to be 50 percent. Industrial uses are often not efficient land uses and therefore they warrant a higher replacement acreage factor. On average, 50 percent is likely too high if all that acreage was going to be replaced within Medford's UGB. However, it is expected that some of the displaced industrial acreage will occur in White City, so the 50 percent factor assumes some displacement to the White City industrial area.

When large site and smaller site estimates are combined, it is possible to evaluate the final land demand relative to the final land supplies that include both vacant lands and net new lands available through redevelopment. Figure 39 reports sites demanded versus the supply of sites under the GLUP land use designations in effect at the time of this Economic Element update. The only assumed map change is as part of redevelopment around the Owen Drive/Highway 62 intersection.

FIGURE 39: SITES DEMANDED VERSUS SUPPLY OF SITES BY DEVELOPMENT PATTERN

Number of Sites by Development Pattern						Planning Horizon				
		Demand Projections						Balance		
		Typical Acreage	Medium	High	Low	Vacant Supply	Net New Redevelopment	Medium	High	Low
Office	Large	5.00	9	11	8	5	2	-2	-4	-1
	Medium	1.50	55	65	44	53	2	0	-10	11
	Small	0.45	468	554	373	93	17	-358	-445	-264
Industrial	Large	30.00	3	4	3	13	1	11	10	11
	Medium	6.00	21	25	17	52	9	40	36	44
	Small	1.50	114	135	92	107	9	1	-19	23
Commercial	Large	20.00	7	8	5	2	1	-4	-5	-2
	Medium	4.50	31	37	25	50	7	26	20	32
	Small	0.75	163	220	186	66	28	-69	-126	-92

The redevelopment analysis does not eliminate all the deficits that cannot be met by the analysis of vacant sites. However, it does reduce the totals somewhat. The project advisory committee had an excellent observation with respect to the deficit of small office sites. Small Offices are one of the few types of employment development patterns that are really capable of *in-fill* development. Specifically, the typical site size of 0.45 acres is *actually less* than the minimum acreage analyzed for employment lands under the administrative rule at 0.50 acres. Moreover, small office projects are also a real-estate product that is often being bundled with housing in residential areas through the Planned Unit Development permitting process. Over the planning horizon, the calculated deficit may not be as substantial as the actual marketplace deficit which will trade office parcels in sizes demanded by the market that are not captured by the larger scale planning analysis presented in the Economic Element.

Figure 40 reports total demand versus supply of acreage.

FIGURE 40: RECONCILIATION OF DEMAND AND SUPPLY BY DEVELOPMENT PATTERN TYPE

Supply Acres Reconciliation (Net Buildable Acres)						Planning Horizon				
		Demand Projections						Balance		
		Typical Acreage	Medium	High	Low	Vacant Supply	Net New Redevelopment	Medium	High	Low
Office	Large	5.00	47	56	38	21	10	-17	-25	-7
	Medium	1.50	83	98	66	66	3	-14	-29	3
	Small	0.45	211	250	168	64	8	-139	-178	-96
	SubTotal		**341**	**403**	**272**	**151**	**21**	**-169**	**-232**	**-100**
Industrial	Large	30.00	103	121	83	207	50	154	136	174
	Medium	6.00	126	148	102	206	37	116	94	141
	Small	1.50	172	202	138	122	19	-30	-60	3
	SubTotal		**401**	**471**	**323**	**535**	**106**	**240**	**170**	**318**
Commercial	Large	20.00	134	158	108	52	10	-72	-96	-46
	Medium	4.50	140	164	112	102	26	-11	-36	16
	Small	0.75	123	165	139	60	15	-47	-89	-64
	SubTotal		**397**	**487**	**360**	**215**	**51**	**-130**	**-221**	**-94**
Other	Over Night Lodging	Not Estimated	26	31	21	Not Estimated	Not Estimated	-26	-31	-21
	Special Uses	Not Estimated	220	252	181	Not Estimated	Not Estimated	-220	-252	-181
	Grand Totals		**1383**	**1644**	**1156**	**900**	**178**	**-305**	**-566**	**-78**

The inclusion of redevelopable acreage reduces the size of the acreage deficits, but does not eliminate them for the medium and high growth scenarios. Neither does the low growth scenario identify a surplus or deficit. It is important to keep in mind that the previous tables report net buildable acres. From the standpoint of UGB expansion, where lands are not generally served by infrastructure, 25 percent is typically added to arrive at the required gross acreage. Thus, the City would require an additional 382 gross acres under the medium growth scenario and 708 gross acres under the high growth scenario as part of an Urban Growth Boundary expansion.

PLAN AMENDMENT RESPONSE TO DEFICITS

As part of the Economic Element development, a technical memorandum was prepared to evaluate the potential of Comprehensive Plan text amendments and GLUP Map amendments to address identified deficiencies. The ultimate purpose of that technical memorandum work product is to provide the City with a foundation to initiate future legislative amendments to its Comprehensive Plan text and to inform policy development of the Economic Element. The technical memorandum serves as a foundation for future major legislative action(s), but it should not be interpreted as having the same level of accuracy and/or precision as the analyses depicted in Figure 40. While the details of this technical memorandum are not recited entirely in the Economic Element, the results are provided below as a means to assess the potential magnitude of such Comprehensive Plan Text amendments and GLUP Map amendments to address supply deficits.

FIGURE 41: APPROXIMATE FINAL ACREAGE RECONCILIATION IF CONTEMPLATED GLUP DESCRIPTIONS CHANGES AND MAP AMENDMENTS WERE ENACTED

Final Acres Reconciliation Based Upon Revised GLUP Map Descriptions and Map Amendments									Planning Horizon			
		Demand Projections					Net	Net New		Balance		
		Typical Acreage	Medium	High	Low	Vacant Supply	Redevelopment Acres	GLUP Changes	Target NE MPED	Medium	High	Low
Office	Large	5.00	47	56	38	21	10	0	10	-7	-15	3
	Medium	1.50	83	98	66	66	3	0	10	-4	-19	13
	Small	0.45	211	250	168	64	8	0	20	-119	-158	-76
	SubTotal		**341**	**403**	**272**	**151**	**21**			**-129**	**-192**	**-60**
Industrial	Large	30.00	103	121	83	207	50	0	-40	114	96	134
	Medium	6.00	126	148	102	206	37	-34	-30	52	30	77
	Small	1.50	172	202	138	122	19	-10	-30	-70	-100	-37
	SubTotal		**401**	**471**	**323**	**535**	**106**	**-44**		**96**	**26**	**174**
Commercial	Large	20.00	134	158	108	52	10	30	30	-12	-36	14
	Medium	4.50	140	164	112	102	26	26	30	45	20	72
	Small	0.75	123	165	139	60	15	32		-15	-58	-32
	SubTotal		**397**	**487**	**360**	**215**	**51**	**88**		**17**	**-73**	**54**
Other	Over Night Lodging	Not Estimated	26	31	21	Not Estimated	Not Estimated	Not Estimated	Not Estimated	-26	-31	-21
	Special Uses	Not Estimated	220	252	181	Not Estimated	Not Estimated	Not Estimated	Not Estimated	-220	-252	-181
	Grand Totals		**1383**	**1644**	**1156**	**900**	**178**	**44**	**0**	**-261**	**-522**	**-34**

Again, the acreage in Figure 41 estimates net buildable acres, so the ultimate required acreage under the Medium growth scenario is 327 acres and 653 acres under the high growth scenario, when 25 percent is added for infrastructure needs. The net new GLUP Changes acreage is predominantly due to Map Amendments contemplated around the new South Medford Interchange and also the addition of more commercial land in the air front area west of the Airport along Biddle Road. The lands around the South Medford Interchange are planned Residential, so the City would need to either determine that land is not needed for residential development or find replacement acreage outside the Urban Growth boundary. In Figure 41, the *Target NE MPED* is short for the targeted amount of acreage to be changed from Industrial to Commercial and Enterprise during the planning horizon as part of a master planned Employment District Northeast of the Airport. Based upon the assessment of the Comprehensive Plan GLUP Map descriptions and identification of GLUP Map amendment opportunities provided in the technical memorandum on this topic, a legislative effort to amend the City's GLUP Map descriptions and targeted Map Amendments could improve the City's land supply balances. However, an urban growth boundary expansion would still be required under the high and medium growth scenarios.

VII. SUMMARY CONCLUSIONS GOALS AND POLICIES

A. ECONOMIC OPPORTUNITIES CONCLUSIONS

1. Like the nation as a whole, the City of Medford has experienced a shift away from industrial development toward service and trade development. This change in composition is expected to continue, but at a somewhat slower rate locally than nationally and statewide. The City of Medford's role as the region's service and trade center is expected to continue to strengthen over the planning horizon, driving an employment share shift toward service and trade sectors. Land demands for industrial development, however, may not change in direct proportion because some of that shift is due to improved manufacturing efficiency that reduces the number of employees without reducing the land demand.

2. Recent labor force trends point to economic underpinnings that support long-term economic development. These trends include:
   a) The City's population is getting younger and the City's population is young when compared to the region and the state.
   b) The percentage of the population attaining a college degree has increased, while the percentage of high school dropouts has decreased.
   c) Labor force participation rates have increased since 1990.
   d) Only 52% of employed City of Medford residents work in Medford; the remainder work outside the City. The City has an opportunity to capture a larger share of its employed population with jobs in the City.

3. Medford is a regional employment center and a net importer of employees. Natural Resources and Manufacturing are the only two industries where Medford is a net exporter of a significant share of its workforce.

4. Most industries in the region have lower wage levels compared to earnings across the state with the exception of Natural Resources, Retail Trade, and Education and Health Services. The City of Medford is well situated to serve the Retail Trade, Education and Health Services sectors.

5. While other economic sectors may strengthen during the planning horizon, the City of Medford is well positioned for the following Target Industry Opportunities:

TIER 1 BEST POSITION	TIER 2 STRONG BUT CHALLENGING	TIER 3 LOCALLY COMPETITIVE
Instruments	Mining	Food Products
Transit	Construction	Transportation Equipment
Transportation Services	Lumber & Wood	Air Transportation
Communications	Printing & Publishing	Wholesale Trade
Retail Trade	Stone, Glass & Concrete	Insurance Carriers
Banking	Electronic Equipment	Insurance Agents & Brokers
	Trucking & Warehousing	Business Services
	Electric, Gas & Sanitation	Legal Services
	Security & Commodity	Leisure and Hospitality Services
	Real Estate	
	Health Care	

6. By 2028, the City of Medford is projected to add between 23,874 jobs under a Low Growth Scenario and *35,404 jobs under the adopted High Growth Scenario*.

B. EMPLOYMENT LAND DEMAND AND SUPPLY CONCLUSIONS

1. This analysis indicates that additional land in the UGB is required to satisfy the City's land needs over the planning horizon.

2. The City of Medford has selected the High Employment Growth Scenario under which the City is projected to need 1,644 net buildable acres over the 20-year planning horizon and 2,055 gross buildable acres, consisting of needed acres in the following categories:

    a. 504 net buildable acres of Office Commercial

    b. 589 net buildable acres of Industrial

    c. 609 net buildable acres of Retail Commercial

    d. 38 net buildable acres of Overnight Lodging

    e. 315 net buildable acres of Specialized Uses

3. The City has a supply of 900 acres of vacant employment land and an additional 178 ***net*** acres is expected to be available in the existing UGB to meet new demand through redevelopment. Based upon the adopted High Growth Scenario, the City of Medford has a deficit of 566 ***net*** buildable acres which equals 708 ***gross*** acres of employment land. An assessment of the Comprehensive Plan designations and mapping indicates that map changes could reduce the deficit to approximately 522 ***net*** buildable acres and 653 ***gross*** acres.

4. Medford's employment base is shifting to a greater proportion of firms with a range of on-site activities that have traditionally been characterized as either commercial or industrial. The City's current GLUP map distinction between Heavy Industrial and General Industrial serves a limited purpose now in the local economy and this purpose is expected to diminish over the planning horizon. The diminishing distinction is due to environmental regulations that reduce the potential for land use conflicts.

5. The City's existing GLUP Map designation for employment lands also makes a strong distinction between commercial and industrial designations. This distinction has become less

appropriate as the distribution of firm activities has shifted over time and a greater mix of commercial and industrial activities are found within individual firm operations.

6. The inadequate capacity of transportation facilities, including transit, may be a significant constraint to supplying adequate employment lands, especially commercial land.

7. Commercial uses on industrial lands are not effectively limited. The current MLDC regulates the size of individual commercial uses in industrial zones, but does not restrict the total area that can be devoted to commercial development on an industrially-planned site. Thus, it is possible to develop a large industrial site with a series of small commercial buildings and uses

8. In the future, more people will start or carry on businesses from their homes in ways that were impossible before electronic commerce. Successful home businesses sometimes expand in ways that produce employment opportunities and contribute to the City's tax base.

9. Businesses whose primary use is outdoor storage and outdoor sales uses, e.g., automobile sales, cover large commercial spaces, but they do not strain transportation facilities to the same extent as similar-sized indoor commercial retail land uses. The MLDC should be revised to reflect this fact.

VIII. TECHNICAL APPENDICES

TECHNICAL APPENDIX A

PROJECTIONS OF OFFICE SPACE-UTILIZING EMPLOYMENT BY INDUSTRY SECTOR
MEDFORD UGB
2008-2028

Medium Growth Scenario	Total Employment 1/					*Office*	Office Space-Utilizing Employment					
Employment Sector	**2008**	**2013**	**2018**	**2023**	**2028**	***Share 2/***	**2008**	**2013**	**2018**	**2023**	**2028**	**'08-28**
Construction	4,084	4,441	4,829	5,251	5,711	*2%*	82	89	97	105	114	**33**
Manufacturing	2,636	2,735	2,838	2,945	3,056	*5%*	132	137	142	147	153	**21**
Wholesale Trade	2,554	2,752	2,965	3,194	3,441	*5%*	128	138	148	160	172	**44**
Retail Trade	13,578	14,601	15,700	16,883	18,154	*5%*	679	730	785	844	908	**229**
Transportation, Warehousing & Utilities	2,154	2,294	2,443	2,602	2,771	*30%*	646	688	733	781	831	**185**
Information	1,589	1,651	1,716	1,783	1,852	*90%*	1,430	1,486	1,544	1,604	1,667	**237**
Financial Activities	6,909	7,411	7,949	8,526	9,146	*90%*	6,218	6,670	7,154	7,674	8,231	**2,013**
Professional & Business Services	10,101	11,201	12,420	13,772	15,270	*90%*	9,091	10,081	11,178	12,394	13,743	**4,652**
Education & Health Services	13,260	15,044	17,070	19,367	21,975	*40%*	5,304	6,018	6,828	7,747	8,790	**3,486**
Leisure & Hospitality	6,598	7,308	8,094	8,965	9,930	*25%*	1,649	1,827	2,023	2,241	2,482	**833**
Other Services	4,351	4,634	4,935	5,256	5,597	*40%*	1,740	1,853	1,974	2,102	2,239	**498**
Government	5,538	5,724	5,916	6,114	6,320	*85%*	4,707	4,865	5,028	5,197	5,372	**664**
Total	**73,351**	**79,795**	**86,874**	**94,658**	**103,223**	*43%*	**31,806**	**34,581**	**37,634**	**40,997**	**44,703**	**12,896**

High Growth Scenario	Total Employment 1/					*Office*	Office Space-Utilizing Employment					
Employment Sector	**2008**	**2013**	**2018**	**2023**	**2028**	***Share 2/***	**2008**	**2013**	**2018**	**2023**	**2028**	**'08-28**
Construction	4,084	4,497	4,951	5,451	6,002	*2%*	82	90	99	109	120	**38**
Manufacturing	2,636	2,750	2,869	2,994	3,124	*5%*	132	138	143	150	156	**24**
Wholesale Trade	2,554	2,783	3,031	3,302	3,598	*5%*	128	139	152	165	180	**52**
Retail Trade	13,578	14,759	16,043	17,439	18,956	*5%*	679	738	802	872	948	**269**
Transportation, Warehousing & Utilities	2,154	2,315	2,489	2,676	2,877	*30%*	646	695	747	803	863	**217**
Information	1,589	1,661	1,736	1,814	1,895	*90%*	1,430	1,495	1,562	1,632	1,706	**275**
Financial Activities	6,909	7,488	8,117	8,798	9,536	*90%*	6,218	6,739	7,305	7,918	8,582	**2,364**
Professional & Business Services	10,101	11,374	12,806	14,419	16,235	*90%*	9,091	10,236	11,526	12,977	14,612	**5,520**
Education & Health Services	13,260	15,328	17,719	20,483	23,679	*40%*	5,304	6,131	7,088	8,193	9,471	**4,168**
Leisure & Hospitality	6,598	7,419	8,343	9,382	10,550	*25%*	1,649	1,855	2,086	2,345	2,638	**988**
Other Services	4,351	4,677	5,028	5,405	5,811	*40%*	1,740	1,871	2,011	2,162	2,324	**584**
Government	5,538	5,752	5,974	6,205	6,445	*85%*	4,707	4,889	5,078	5,275	5,479	**772**
Total	**73,351**	**80,803**	**89,107**	**98,369**	**108,708**	*43%*	**31,806**	**35,016**	**38,598**	**42,601**	**47,078**	**15,272**

Slow Growth Scenario	Total Employment 1/					*Office*	Office Space-Utilizing Employment					
Employment Sector	**2008**	**2013**	**2018**	**2023**	**2028**	***Share 2/***	**2008**	**2013**	**2018**	**2023**	**2028**	**'08-28**
Construction	4,084	4,377	4,691	5,027	5,387	*2%*	82	88	94	101	108	**26**
Manufacturing	2,636	2,717	2,802	2,888	2,978	*5%*	132	136	140	144	149	**17**
Wholesale Trade	2,554	2,716	2,889	3,072	3,268	*5%*	128	136	144	154	163	**36**
Retail Trade	13,578	14,418	15,309	16,255	17,260	*5%*	679	721	765	813	863	**184**
Transportation, Warehousing & Utilities	2,154	2,269	2,390	2,518	2,652	*30%*	646	681	717	755	796	**150**
Information	1,589	1,640	1,693	1,747	1,804	*90%*	1,430	1,476	1,524	1,573	1,623	**193**
Financial Activities	6,909	7,321	7,757	8,220	8,710	*90%*	6,218	6,589	6,982	7,398	7,839	**1,621**
Professional & Business Services	10,101	11,002	11,983	13,051	14,214	*90%*	9,091	9,902	10,784	11,746	12,792	**3,701**
Education & Health Services	13,260	14,719	16,339	18,137	20,134	*40%*	5,304	5,888	6,536	7,255	8,054	**2,750**
Leisure & Hospitality	6,598	7,179	7,812	8,500	9,250	*25%*	1,649	1,795	1,953	2,125	2,312	**663**
Other Services	4,351	4,583	4,828	5,085	5,357	*40%*	1,740	1,833	1,931	2,034	2,143	**402**
Government	5,538	5,691	5,848	6,010	6,176	*85%*	4,707	4,837	4,971	5,108	5,249	**542**
Total	**73,351**	**78,632**	**84,339**	**90,511**	**97,188**	*43%*	**31,806**	**34,080**	**36,541**	**39,205**	**42,091**	**10,285**

1/ Johnson Gardner
2/ Share of industry employment that utilizes office space. From the Urban Land Institute converted to NAICS by Johnson Gardner, LLC.
* Estimate

TECHNICAL APPENDIX B

DEMAND PROJECTIONS FOR COMMERCIAL OFFICE SPACE BY INDUSTRY SECTOR
MEDFORD UGB
2008-2028

Medium Growth Scenario	Local Area Jobs in Office Space 1/						Avg. Space	Projected Office Space Need 3/					
Employment Sector	**2008**	**2013**	**2018**	**2023**	**2028**	**'08-28**	***Per Job 2/***	**2008**	**2013**	**2018**	**2023**	**2028**	***'08-28***
Construction	82	89	97	105	114	**33**	*366*	32,885	35,760	38,886	42,285	45,981	**13,096**
Manufacturing	132	137	142	147	153	**21**	*366*	53,055	55,054	57,128	59,281	61,514	**8,459**
Wholesale Trade	128	138	148	160	172	**44**	*366*	51,417	55,396	59,682	64,301	69,277	**17,860**
Retail Trade	679	730	785	844	908	**229**	*366*	273,333	293,916	316,050	339,851	365,444	**92,111**
Transportation, Warehousing & Utilities	646	688	733	781	831	**185**	*366*	260,103	277,028	295,055	314,254	334,702	**74,599**
Information	1,430	1,486	1,544	1,604	1,667	**237**	*366*	575,860	598,340	621,699	645,970	671,188	**95,328**
Financial Activities	6,218	6,670	7,154	7,674	8,231	**2,013**	*366*	2,503,291	2,685,145	2,880,210	3,089,446	3,313,882	**810,591**
Professional & Business Services	9,091	10,081	11,178	12,394	13,743	**4,652**	*366*	3,660,177	4,058,529	4,500,235	4,990,014	5,533,097	**1,872,920**
Education & Health Services	5,304	6,018	6,828	7,747	8,790	**3,486**	*366*	2,135,316	2,422,759	2,748,897	3,118,937	3,538,789	**1,403,474**
Leisure & Hospitality	1,649	1,827	2,023	2,241	2,482	**833**	*366*	664,053	735,512	814,660	902,325	999,424	**335,371**
Other Services	1,740	1,853	1,974	2,102	2,239	**498**	*366*	700,663	746,202	794,700	846,350	901,357	**200,693**
Government	4,707	4,865	5,028	5,197	5,372	**664**	*366*	1,895,080	1,958,687	2,024,429	2,092,377	2,162,606	**267,526**
Total	**31,806**	**34,581**	**37,634**	**40,997**	**44,703**	**12,896**	***366***	**12,805,233**	**13,922,329**	**15,151,631**	**16,505,390**	**17,997,262**	**5,192,029**

High Growth Scenario	Local Area Jobs in Office Space 1/						Avg. Space	Projected Office Space Need 3/					
Employment Sector	**2008**	**2013**	**2018**	**2023**	**2028**	**'08-28**	***Per Job 2/***	**2008**	**2013**	**2018**	**2023**	**2028**	***'08-28***
Construction	82	90	99	109	120	**38**	*366*	32,885	36,208	39,866	43,894	48,329	**15,444**
Manufacturing	132	138	143	150	156	**24**	*366*	53,055	55,359	57,763	60,271	62,889	**9,834**
Wholesale Trade	128	139	152	165	180	**52**	*366*	51,417	56,013	61,020	66,475	72,418	**21,001**
Retail Trade	679	738	802	872	948	**269**	*366*	273,333	297,108	322,951	351,043	381,578	**108,245**
Transportation, Warehousing & Utilities	646	695	747	803	863	**217**	*366*	260,103	279,641	300,647	323,230	347,510	**87,407**
Information	1,430	1,495	1,562	1,632	1,706	**275**	*366*	575,860	601,772	628,851	657,149	686,719	**110,860**
Financial Activities	6,218	6,739	7,305	7,918	8,582	**2,364**	*366*	2,503,291	2,713,311	2,940,952	3,187,690	3,455,130	**951,839**
Professional & Business Services	9,091	10,236	11,526	12,977	14,612	**5,520**	*366*	3,660,177	4,121,159	4,640,200	5,224,611	5,882,626	**2,222,449**
Education & Health Services	5,304	6,131	7,088	8,193	9,471	**4,168**	*366*	2,135,316	2,468,421	2,853,491	3,298,630	3,813,211	**1,677,895**
Leisure & Hospitality	1,649	1,855	2,086	2,345	2,638	**988**	*366*	664,053	746,741	839,725	944,288	1,061,871	**397,817**
Other Services	1,740	1,871	2,011	2,162	2,324	**584**	*366*	700,663	753,232	809,744	870,497	935,808	**235,144**
Government	4,707	4,889	5,078	5,275	5,479	**772**	*366*	1,895,080	1,968,373	2,044,501	2,123,574	2,205,704	**310,624**
Total	**31,806**	**35,016**	**38,598**	**42,601**	**47,078**	**15,272**	***366***	**12,805,233**	**14,097,340**	**15,539,713**	**17,151,353**	**18,953,793**	**6,148,559**

Slow Growth Scenario	Local Area Jobs in Office Space 1/						Avg. Space	Projected Office Space Need 3/					
Employment Sector	**2008**	**2013**	**2018**	**2023**	**2028**	**'08-28**	***Per Job 2/***	**2008**	**2013**	**2018**	**2023**	**2028**	***'08-28***
Construction	82	88	94	101	108	**26**	*366*	32,885	35,243	37,769	40,477	43,379	**10,494**
Manufacturing	132	136	140	144	149	**17**	*366*	53,055	54,700	56,396	58,144	59,947	**6,892**
Wholesale Trade	128	136	144	154	163	**36**	*366*	51,417	54,682	58,155	61,848	65,776	**14,359**
Retail Trade	679	721	765	813	863	**184**	*366*	273,333	290,227	308,167	327,215	347,440	**74,107**
Transportation, Warehousing & Utilities	646	681	717	755	796	**150**	*366*	260,103	274,004	288,649	304,076	320,327	**60,224**
Information	1,430	1,476	1,524	1,573	1,623	**193**	*366*	575,860	594,356	613,448	633,152	653,489	**77,630**
Financial Activities	6,218	6,589	6,982	7,398	7,839	**1,621**	*366*	2,503,291	2,652,581	2,810,774	2,978,401	3,156,025	**652,734**
Professional & Business Services	9,091	9,902	10,784	11,746	12,792	**3,701**	*366*	3,660,177	3,986,426	4,341,754	4,728,754	5,150,249	**1,490,071**
Education & Health Services	5,304	5,888	6,536	7,255	8,054	**2,750**	*366*	2,135,316	2,370,344	2,631,240	2,920,853	3,242,342	**1,107,026**
Leisure & Hospitality	1,649	1,795	1,953	2,125	2,312	**663**	*366*	664,053	722,582	786,270	855,570	930,979	**266,926**
Other Services	1,740	1,833	1,931	2,034	2,143	**402**	*366*	700,663	738,066	777,466	818,968	862,687	**162,023**
Government	4,707	4,837	4,971	5,108	5,249	**542**	*366*	1,895,080	1,947,434	2,001,235	2,056,521	2,113,336	**218,256**
Total	**31,806**	**34,080**	**36,541**	**39,205**	**42,091**	**10,285**	***366***	**12,805,233**	**13,720,646**	**14,711,321**	**15,783,980**	**16,945,976**	**4,140,743**

1/ From Exhibit 1.01
2/ Average office employment density by industry sector based on Urban Land Institute guidelines.
3/ Assumes a market-clearing 10% office space vacancy rate.
*Estimate

TECHNICAL APPENDIX C

DEMAND PROJECTIONS FOR COMMERCIAL OFFICE LAND BY INDUSTRY SECTOR
MEDFORD UGB
2008-2028

Medium Growth Scenario	Projected Office Space Need 1/						*Floor to*	Predicted Land Need (Acres)					
Employment Sector	**2008**	**2013**	**2018**	**2023**	**2028**	**'08-28**	***Area Ratio***	**2008**	**2013**	**2018**	**2023**	**2028**	**'08-28**
Construction	32,885	35,760	38,886	42,285	45,981	**13,096**	*0.35*	2.2	2.3	2.6	2.8	3.0	**0.9**
Manufacturing	53,055	55,054	57,128	59,281	61,514	**8,459**	*0.35*	3.5	3.6	3.7	3.9	4.0	**0.6**
Wholesale Trade	51,417	55,396	59,682	64,301	69,277	**17,860**	*0.35*	3.4	3.6	3.9	4.2	4.5	**1.2**
Retail Trade	273,333	293,916	316,050	339,851	365,444	**92,111**	*0.35*	17.9	19.3	20.7	22.3	24.0	**6.0**
Transportation, Warehousing & Utilities	260,103	277,028	295,055	314,254	334,702	**74,599**	*0.35*	17.1	18.2	19.4	20.6	22.0	**4.9**
Information	575,860	598,340	621,699	645,970	671,188	**95,328**	*0.35*	37.8	39.2	40.8	42.4	44.0	**6.3**
Financial Activities	2,503,291	2,685,145	2,880,210	3,089,446	3,313,882	**810,591**	*0.35*	164.2	176.1	188.9	202.6	217.4	**53.2**
Professional & Business Services	3,660,177	4,058,529	4,500,235	4,990,014	5,533,097	**1,872,920**	*0.35*	240.1	266.2	295.2	327.3	362.9	**122.8**
Education & Health Services	2,135,316	2,422,759	2,748,897	3,118,937	3,538,789	**1,403,474**	*0.35*	140.1	158.9	180.3	204.6	232.1	**92.1**
Leisure & Hospitality	664,053	735,512	814,660	902,325	999,424	**335,371**	*0.35*	43.6	48.2	53.4	59.2	65.6	**22.0**
Other Services	700,663	746,202	794,700	846,350	901,357	**200,693**	*0.35*	46.0	48.9	52.1	55.5	59.1	**13.2**
Government	1,895,080	1,958,687	2,024,429	2,092,377	2,162,606	**267,526**	*0.35*	124.3	128.5	132.8	137.2	141.8	**17.5**
Total	**12,805,233**	**13,922,329**	**15,151,631**	**16,505,390**	**17,997,262**	**5,192,029**	***0.35***	**839.9**	**913.2**	**993.8**	**1,082.6**	**1,180.5**	**340.6**

High Growth Scenario	Projected Office Space Need 1/						*Floor to*	Predicted Land Need (Acres)					
Employment Sector	**2008**	**2013**	**2018**	**2023**	**2028**	***'08-28***	***Area Ratio***	**2008**	**2013**	**2018**	**2023**	**2028**	***'08-28***
Construction	32,885	36,208	39,866	43,894	48,329	**15,444**	*0.35*	2.2	2.4	2.6	2.9	3.2	**1.0**
Manufacturing	53,055	55,359	57,763	60,271	62,889	**9,834**	*0.35*	3.5	3.6	3.8	4.0	4.1	**0.6**
Wholesale Trade	51,417	56,013	61,020	66,475	72,418	**21,001**	*0.35*	3.4	3.7	4.0	4.4	4.7	**1.4**
Retail Trade	273,333	297,108	322,951	351,043	381,578	**108,245**	*0.35*	17.9	19.5	21.2	23.0	25.0	**7.1**
Transportation, Warehousing & Utilities	260,103	279,641	300,647	323,230	347,510	**87,407**	*0.35*	17.1	18.3	19.7	21.2	22.8	**5.7**
Information	575,860	601,772	628,851	657,149	686,719	**110,860**	*0.35*	37.8	39.5	41.2	43.1	45.0	**7.3**
Financial Activities	2,503,291	2,713,311	2,940,952	3,187,690	3,455,130	**951,839**	*0.35*	164.2	178.0	192.9	209.1	226.6	**62.4**
Professional & Business Services	3,660,177	4,121,159	4,640,200	5,224,611	5,882,626	**2,222,449**	*0.35*	240.1	270.3	304.4	342.7	385.8	**145.8**
Education & Health Services	2,135,316	2,468,421	2,853,491	3,298,630	3,813,211	**1,677,895**	*0.35*	140.1	161.9	187.2	216.4	250.1	**110.1**
Leisure & Hospitality	664,053	746,741	839,725	944,288	1,061,871	**397,817**	*0.35*	43.6	49.0	55.1	61.9	69.6	**26.1**
Other Services	700,663	753,232	809,744	870,497	935,808	**235,144**	*0.35*	46.0	49.4	53.1	57.1	61.4	**15.4**
Government	1,895,080	1,968,373	2,044,501	2,123,574	2,205,704	**310,624**	*0.35*	124.3	129.1	134.1	139.3	144.7	**20.4**
Total	**12,805,233**	**14,097,340**	**15,539,713**	**17,151,353**	**18,953,793**	**6,148,559**	***0.35***	**839.9**	**924.7**	**1,019.3**	**1,125.0**	**1,243.2**	**403.3**

Slow Growth Scenario	Projected Office Space Need 1/						*Floor to*	Predicted Land Need (Acres)					
Employment Sector	**2008**	**2013**	**2018**	**2023**	**2028**	**'08-28**	***Area Ratio***	**2008**	**2013**	**2018**	**2023**	**2028**	***'08-28***
Construction	32,885	35,243	37,769	40,477	43,379	**10,494**	*0.35*	2.2	2.3	2.5	2.7	2.8	**0.7**
Manufacturing	53,055	54,700	56,396	58,144	59,947	**6,892**	*0.35*	3.5	3.6	3.7	3.8	3.9	**0.5**
Wholesale Trade	51,417	54,682	58,155	61,848	65,776	**14,359**	*0.35*	3.4	3.6	3.8	4.1	4.3	**0.9**
Retail Trade	273,333	290,227	308,167	327,215	347,440	**74,107**	*0.35*	17.9	19.0	20.2	21.5	22.8	**4.9**
Transportation, Warehousing & Utilities	260,103	274,004	288,649	304,076	320,327	**60,224**	*0.35*	17.1	18.0	18.9	19.9	21.0	**4.0**
Information	575,860	594,356	613,448	633,152	653,489	**77,630**	*0.35*	37.8	39.0	40.2	41.5	42.9	**5.1**
Financial Activities	2,503,291	2,652,581	2,810,774	2,978,401	3,156,025	**652,734**	*0.35*	164.2	174.0	184.4	195.4	207.0	**42.8**
Professional & Business Services	3,660,177	3,986,426	4,341,754	4,728,754	5,150,249	**1,490,071**	*0.35*	240.1	261.5	284.8	310.2	337.8	**97.7**
Education & Health Services	2,135,316	2,370,344	2,631,240	2,920,853	3,242,342	**1,107,026**	*0.35*	140.1	155.5	172.6	191.6	212.7	**72.6**
Leisure & Hospitality	664,053	722,582	786,270	855,570	930,979	**266,926**	*0.35*	43.6	47.4	51.6	56.1	61.1	**17.5**
Other Services	700,663	738,066	777,466	818,968	862,687	**162,023**	*0.35*	46.0	48.4	51.0	53.7	56.6	**10.6**
Government	1,895,080	1,947,434	2,001,235	2,056,521	2,113,336	**218,256**	*0.35*	124.3	127.7	131.3	134.9	138.6	**14.3**
Total	**12,805,233**	**13,720,646**	**14,711,321**	**15,783,980**	**16,945,976**	**4,140,743**	***0.35***	**839.9**	**900.0**	**964.9**	**1,035.3**	**1,111.5**	**271.6**

1/ From Exhibit 1.02
*Estimate

TECHNICAL APPENDIX D

PROJECTIONS OF INDUSTRIAL SPACE-UTILIZING EMPLOYMENT BY INDUSTRY SECTOR
MEDFORD UGB
2008-2028

Medium Growth Scenario	Total Employment 1/					*Industrial*	Industrial Space-Utilizing Employment					
Employment Sector	**2008**	**2013**	**2018**	**2023**	**2028**	***Share 2/***	**2008**	**2010**	**2015**	**2020**	**2028**	**08-28**
Construction	4,084	4,441	4,829	5,251	5,711	*30%*	1,225	1,332	1,449	1,575	1,713	**488**
Manufacturing	2,636	2,735	2,838	2,945	3,056	*95%*	2,504	2,598	2,696	2,798	2,903	**399**
Wholesale Trade	2,554	2,752	2,965	3,194	3,441	*95%*	2,427	2,614	2,817	3,035	3,269	**843**
Retail Trade	13,578	14,601	15,700	16,883	18,154	*0%*	0	0	0	0	0	**0**
Transportation, Warehousing & Utilities	2,154	2,294	2,443	2,602	2,771	*70%*	1,507	1,606	1,710	1,821	1,940	**432**
Information	1,589	1,651	1,716	1,783	1,852	*10%*	159	165	172	178	185	**26**
Financial Activities	6,909	7,411	7,949	8,526	9,146	*0%*	0	0	0	0	0	**0**
Professional & Business Services	10,101	11,201	12,420	13,772	15,270	*10%*	1,010	1,120	1,242	1,377	1,527	**517**
Education & Health Services	13,260	15,044	17,070	19,367	21,975	*0%*	0	0	0	0	0	**0**
Leisure & Hospitality	6,598	7,308	8,094	8,965	9,930	*0%*	0	0	0	0	0	**0**
Other Services	4,351	4,634	4,935	5,256	5,597	*60%*	2,611	2,780	2,961	3,153	3,358	**748**
Government	5,538	5,724	5,916	6,114	6,320	*15%*	831	859	887	917	948	**117**
Total	**73,351**	**79,795**	**86,874**	**94,658**	**103,223**	*16%*	**12,273**	**13,074**	**13,933**	**14,855**	**15,844**	**3,571**
High Growth Scenario	**Total Employment 1/**					***Industrial***	**Industrial Space-Utilizing Employment**					
Employment Sector	**2008**	**2013**	**2018**	**2023**	**2028**	***Share 2/***	**2008**	**2010**	**2015**	**2020**	**2028**	**08-28**
Construction	4,084	4,497	4,951	5,451	6,002	*30%*	1,225	1,349	1,485	1,635	1,801	**575**
Manufacturing	2,636	2,750	2,869	2,994	3,124	*95%*	2,504	2,613	2,726	2,844	2,968	**464**
Wholesale Trade	2,554	2,783	3,031	3,302	3,598	*95%*	2,427	2,643	2,880	3,137	3,418	**991**
Retail Trade	13,578	14,759	16,043	17,439	18,956	*0%*	0	0	0	0	0	**0**
Transportation, Warehousing & Utilities	2,154	2,315	2,489	2,676	2,877	*70%*	1,507	1,621	1,742	1,873	2,014	**507**
Information	1,589	1,661	1,736	1,814	1,895	*10%*	159	166	174	181	190	**31**
Financial Activities	6,909	7,488	8,117	8,798	9,536	*0%*	0	0	0	0	0	**0**
Professional & Business Services	10,101	11,374	12,806	14,419	16,235	*10%*	1,010	1,137	1,281	1,442	1,624	**613**
Education & Health Services	13,260	15,328	17,719	20,483	23,679	*0%*	0	0	0	0	0	**0**
Leisure & Hospitality	6,598	7,419	8,343	9,382	10,550	*0%*	0	0	0	0	0	**0**
Other Services	4,351	4,677	5,028	5,405	5,811	*60%*	2,611	2,806	3,017	3,243	3,487	**876**
Government	5,538	5,752	5,974	6,205	6,445	*15%*	831	863	896	931	967	**136**
Total	**73,351**	**80,803**	**89,107**	**98,369**	**108,708**	*16%*	**12,273**	**13,198**	**14,201**	**15,288**	**16,467**	**4,193**
Slow Growth Scenario	**Total Employment 1/**					***Industrial***	**Industrial Space-Utilizing Employment**					
Employment Sector	**2008**	**2013**	**2018**	**2023**	**2028**	***Share 2/***	**2008**	**2010**	**2015**	**2020**	**2028**	**08-28**
Construction	4,084	4,377	4,691	5,027	5,387	*30%*	1,225	1,313	1,407	1,508	1,616	**391**
Manufacturing	2,636	2,717	2,802	2,888	2,978	*95%*	2,504	2,581	2,662	2,744	2,829	**325**
Wholesale Trade	2,554	2,716	2,889	3,072	3,268	*95%*	2,427	2,581	2,745	2,919	3,104	**678**
Retail Trade	13,578	14,418	15,309	16,255	17,260	*0%*	0	0	0	0	0	**0**
Transportation, Warehousing & Utilities	2,154	2,269	2,390	2,518	2,652	*70%*	1,507	1,588	1,673	1,762	1,857	**349**
Information	1,589	1,640	1,693	1,747	1,804	*10%*	159	164	169	175	180	**21**
Financial Activities	6,909	7,321	7,757	8,220	8,710	*0%*	0	0	0	0	0	**0**
Professional & Business Services	10,101	11,002	11,983	13,051	14,214	*10%*	1,010	1,100	1,198	1,305	1,421	**411**
Education & Health Services	13,260	14,719	16,339	18,137	20,134	*0%*	0	0	0	0	0	**0**
Leisure & Hospitality	6,598	7,179	7,812	8,500	9,250	*0%*	0	0	0	0	0	**0**
Other Services	4,351	4,583	4,828	5,085	5,357	*60%*	2,611	2,750	2,897	3,051	3,214	**604**
Government	5,538	5,691	5,848	6,010	6,176	*15%*	831	854	877	901	926	**96**
Total	**73,351**	**78,632**	**84,339**	**90,511**	**97,188**	*16%*	**12,273**	**12,931**	**13,628**	**14,366**	**15,148**	**2,875**

1/ From Exhibit 1.01
2/ Share of industry employment that utilizes industrial space. Regional Industrial Land Study Phase III (EcoNorthwest and Otak, Inc., 2001) converted to NAICS by Johnson Gardner, LLC.
* Estimate

TECHNICAL APPENDIX E

INDUSTRIAL EMPLOYMENT DENSITY WORKSHEET BY INDUSTRY SECTOR
MEDFORD UGB
2008-2028

Industrial Space Density	Distribution by Building Type 1/			Square Feet per Job 2/			Average Space per Job			
Employment Sector	**Warehouse/ Distrib.**	**General Industrial**	**Tech/ Flex**	**Warehouse/ Distrib.**	**General Industrial**	**Tech/ Flex**	**Warehouse/ Distrib.**	**General Industrial**	**Tech/ Flex**	**Weighted Average**
Construction	0%	75%	25%	1,350	533	467	0	400	117	**517**
Manufacturing	0%	75%	25%	1,350	533	467	0	400	117	**517**
Wholesale Trade	90%	0%	10%	2,746	533	467	2,471	0	47	**2,518**
Retail Trade	0%	0%	0%	1,350	533	467	0	0	0	**0**
Transportation, Warehousing & Utilities	100%	0%	0%	1,707	533	467	1,707	0	0	**1,707**
Information	0%	0%	100%	1,350	533	467	0	0	467	**467**
Financial Activities	0%	0%	0%	1,350	533	467	0	0	0	**0**
Professional & Business Services	0%	0%	100%	1,350	533	467	0	0	467	**467**
Education & Health Services	0%	0%	0%	1,350	533	467	0	0	0	**0**
Leisure & Hospitality	0%	0%	0%	1,350	533	467	0	0	0	**0**
Other Services	0%	75%	25%	1,350	533	467	0	400	117	**517**
Government	50%	0%	50%	1,350	533	467	675	0	234	**909**

1/ Regional Industrial Land Study Phase II (Otak, Inc. et al, 1999) converted to NAICS by Johnson Gardner, LLC.
2/ Regional Industrial Land Study Phase III (EcoNorthwest and Otak, Inc., 2001) converted to NAICS by Johnson Gardner, LLC. Densities for Wholesale Trade and TWU are based on Medford Area data collected by CSA Planning.

TECHNICAL APPENDIX F

DEMAND PROJECTIONS FOR INDUSTRIAL SPACE BY INDUSTRY SECTOR
MEDFORD UGB
2008-2028

Medium Growth Scenario	Local Area Jobs in Industrial Space 1/						Avg. Space	Projected Industrial Space Need 3/					
Employment Sector	2008	2013	2018	2023	2028	08-28	Per Job 2/	2008	2013	2018	2023	2028	08-28
Construction	1,225	1,332	1,449	1,575	1,713	488	517	696,112	756,962	823,132	895,087	973,331	277,219
Manufacturing	2,504	2,598	2,696	2,798	2,903	399	517	1,422,555	1,476,154	1,531,773	1,589,487	1,649,375	226,820
Wholesale Trade	2,427	2,614	2,817	3,035	3,269	843	2,518	6,721,248	7,241,376	7,801,755	8,405,499	9,055,964	2,334,716
Transportation, Warehousing & Utilities	1,507	1,606	1,710	1,821	1,940	432	1,707	2,830,576	3,014,763	3,210,935	3,419,872	3,642,404	811,828
Information	159	165	172	178	185	26	467	81,641	84,828	88,140	91,581	95,156	13,515
Professional & Business Services	1,010	1,120	1,242	1,377	1,527	517	467	518,914	575,390	638,012	707,449	784,443	265,529
Other Services	2,611	2,780	2,961	3,153	3,358	748	517	1,483,166	1,579,562	1,682,223	1,791,556	1,907,995	424,828
Government	831	859	887	917	948	117	909	830,125	857,988	886,786	916,550	947,313	117,188
Total	**12,273**	**13,074**	**13,933**	**14,855**	**15,844**	**3,571**	1,080	**14,584,338**	**15,587,024**	**16,662,755**	**17,817,079**	**19,055,982**	**4,471,643**
High Growth Scenario	**Local Area Jobs in Industrial Space 1/**						**Avg. Space**	**Projected Industrial Space Need 3/**					
Employment Sector	**2008**	**2013**	**2018**	**2023**	**2028**	**08-28**	***Per Job 2/***	**2008**	**2013**	**2018**	**2023**	**2028**	***08-28***
Construction	1,225	1,349	1,485	1,635	1,801	**575**	517	696,112	766,446	843,886	929,151	1,023,031	**326,920**
Manufacturing	2,504	2,613	2,726	2,844	2,968	**464**	517	1,422,555	1,484,332	1,548,791	1,616,049	1,686,228	**263,672**
Wholesale Trade	2,427	2,643	2,880	3,137	3,418	**991**	2,518	6,721,248	7,322,096	7,976,657	8,689,733	9,466,555	**2,745,307**
Transportation, Warehousing & Utilities	1,507	1,621	1,742	1,873	2,014	**507**	1,707	2,830,576	3,043,199	3,271,793	3,517,558	3,781,784	**951,208**
Information	159	166	174	181	190	**31**	467	81,641	85,315	89,154	93,166	97,358	**15,717**
Professional & Business Services	1,010	1,137	1,281	1,442	1,624	**613**	467	518,914	584,269	657,855	740,708	833,997	**315,083**
Other Services	2,611	2,806	3,017	3,243	3,487	**876**	517	1,483,166	1,594,443	1,714,070	1,842,671	1,980,921	**497,755**
Government	831	863	896	931	967	**136**	909	830,125	862,231	895,578	930,215	966,192	**136,067**
Total	**12,273**	**13,198**	**14,201**	**15,288**	**16,467**	**0 4,193**	***1,080***	**14,584,338**	**15,742,331**	**16,997,784**	**18,359,252**	**19,836,066**	**5,251,727**
Slow Growth Scenario	**Local Area Jobs in Industrial Space 1/**						**Avg. Space**	**Projected Industrial Space Need 3/**					
Employment Sector	**2008**	**2013**	**2018**	**2023**	**2028**	**08-28**	***Per Job 2/***	**2008**	**2013**	**2018**	**2023**	**2028**	***08-28***
Construction	1,225	1,313	1,407	1,508	1,616	**391**	517	696,112	746,017	799,501	856,819	918,246	**222,135**
Manufacturing	2,504	2,581	2,662	2,744	2,829	**325**	517	1,422,555	1,466,660	1,512,132	1,559,013	1,607,348	**184,793**
Wholesale Trade	2,427	2,581	2,745	2,919	3,104	**678**	2,518	6,721,248	7,148,104	7,602,069	8,084,865	8,598,322	**1,877,075**
Transportation, Warehousing & Utilities	1,507	1,588	1,673	1,762	1,857	**349**	1,707	2,830,576	2,981,857	3,141,223	3,309,107	3,485,963	**655,386**
Information	159	164	169	175	180	**21**	467	81,641	84,264	86,970	89,764	92,647	**11,006**
Professional & Business Services	1,010	1,100	1,198	1,305	1,421	**411**	467	518,914	565,167	615,543	670,409	730,166	**211,252**
Other Services	2,611	2,750	2,897	3,051	3,214	**604**	517	1,483,166	1,562,341	1,645,742	1,733,595	1,826,138	**342,972**
Government	831	854	877	901	926	**96**	909	830,125	853,059	876,626	900,844	925,731	**95,605**
Total	**12,273**	**12,931**	**13,628**	**14,366**	**15,148**	**2,875**	***1,080***	**14,584,338**	**15,407,469**	**16,279,806**	**17,204,415**	**18,184,561**	**3,600,223**

1/ From EXHIBIT 1.05
2/ From EXHIBIT 1.06
3/ Assumes a market-clearing 10% industrial space vacancy rate.
*Estimate

TECHNICAL APPENDIX G

INDUSTRIAL FLOOR-TO-AREA RATIO (FAR) WORKSHEET BY INDUSTRY SECTOR
MEDFORD UGB
2008-2028

Medium Growth Scenario	Distribution by Building Type 1/			FAR by industry sector 2/			Average Space per Job			
Employment Sector	Warehouse/ Distrib.	General Industrial	Tech/ Flex	Warehouse/ Distrib.	General Industrial	Tech/ Flex	Warehouse/ Distrib.	General Industrial	Tech/ Flex	Weighted Average
Construction	0%	75%	25%	0.31	0.30	0.26	0.00	0.23	0.07	**0.29**
Manufacturing	0%	75%	25%	0.31	0.30	0.26	0.00	0.23	0.07	**0.29**
Wholesale Trade	90%	0%	10%	0.31	0.30	0.26	0.28	0.00	0.03	**0.31**
Retail Trade	0%	0%	0%	0.31	0.30	0.26	0.00	0.00	0.00	**0.00**
Transportation, Warehousing & Util	100%	0%	0%	0.31	0.30	0.26	0.31	0.00	0.00	**0.31**
Information	0%	0%	100%	0.31	0.30	0.26	0.00	0.00	0.26	**0.26**
Financial Activities	0%	0%	0%	0.31	0.30	0.26	0.00	0.00	0.00	**0.00**
Professional & Business Services	0%	0%	100%	0.31	0.30	0.26	0.00	0.00	0.26	**0.26**
Education & Health Services	0%	0%	0%	0.31	0.30	0.26	0.00	0.00	0.00	**0.00**
Leisure & Hospitality	0%	0%	0%	0.31	0.30	0.26	0.00	0.00	0.00	**0.00**
Other Services	0%	75%	25%	0.31	0.30	0.26	0.00	0.23	0.07	**0.29**
Government	0%	0%	0%	0.31	0.30	0.26	0.00	0.00	0.00	**0.00**

1/ Regional Industrial Land Study Phase II (Otak, Inc. et al, 1999) converted to NAICS by Johnson Gardner, LLC.
2/ Regional Industrial Land Study Phase III (EcoNorthwest and Otak, Inc., 2001) converted to NAICS by Johnson Gardner, LLC.

TECHNICAL APPENDIX H

DEMAND PROJECTIONS FOR INDUSTRIAL LAND BY INDUSTRY SECTOR
MEDFORD UGB
2008-2028

Medium Growth Scenario	Projected Industrial Space Need 1/						*Floor to Area*	Predicted Land Need (Acres) 3/					
Employment Sector	**2008**	**2013**	**2018**	**2023**	**2028**	***08-28***	***Ratio 2/***	***2008***	***2013***	***2018***	***2023***	***2028***	***08-28***
Construction	696,112	756,962	823,132	895,087	973,331	**277,219**	*0.29*	66.1	71.9	78.2	85.0	92.5	**26.3**
Manufacturing	1,422,555	1,476,154	1,531,773	1,589,487	1,649,375	**226,820**	*0.29*	135.1	140.2	145.5	151.0	156.7	**21.5**
Wholesale Trade	6,721,248	7,241,376	7,801,755	8,405,499	9,055,964	**2,334,716**	*0.31*	607.1	654.1	704.7	759.2	818.0	**210.9**
Transportation, Warehousing & Utilities	2,830,576	3,014,763	3,210,935	3,419,872	3,642,404	**811,828**	*0.31*	251.5	267.9	285.3	303.9	323.7	**72.1**
Information	81,641	84,828	88,140	91,581	95,156	**13,515**	*0.26*	8.7	9.0	9.3	9.7	10.1	**1.4**
Professional & Business Services	518,914	575,390	638,012	707,449	784,443	**265,529**	*0.26*	55.0	61.0	67.6	75.0	83.1	**28.1**
Other Services	1,483,166	1,579,562	1,682,223	1,791,556	1,907,995	**424,828**	*0.29*	140.9	150.0	159.8	170.2	181.2	**40.4**
Total	**14,584,338**	**15,587,024**	**16,662,755**	**17,817,079**	**19,055,982**	**4,471,643**		**1,264.4**	**1,354.1**	**1,450.5**	**1,554.0**	**1,665.2**	**400.8**

High Growth Scenario	Projected Industrial Space Need 1/						*Floor to Area*	Predicted Land Need (Acres) 3/					
Employment Sector	**2008**	**2013**	**2018**	**2023**	**2028**	***08-28***	***Ratio 2/***	***2008***	***2013***	***2018***	***2023***	***2028***	***08-28***
Construction	696,112	766,446	843,886	929,151	1,023,031	**326,920**	*0.29*	66.1	72.8	80.2	88.3	97.2	**31.1**
Manufacturing	1,422,555	1,484,332	1,548,791	1,616,049	1,686,228	**263,672**	*0.29*	135.1	141.0	147.1	153.5	160.2	**25.0**
Wholesale Trade	6,721,248	7,322,096	7,976,657	8,689,733	9,466,555	**2,745,307**	*0.31*	607.1	661.3	720.5	784.9	855.0	**248.0**
Transportation, Warehousing & Utilities	2,830,576	3,043,199	3,271,793	3,517,558	3,781,784	**951,208**	*0.31*	251.5	270.4	290.7	312.6	336.1	**84.5**
Information	81,641	85,315	89,154	93,166	97,358	**15,717**	*0.26*	8.7	9.0	9.4	9.9	10.3	**1.7**
Professional & Business Services	518,914	584,269	657,855	740,708	833,997	**315,083**	*0.26*	55.0	61.9	69.7	78.5	88.4	**33.4**
Other Services	1,483,166	1,594,443	1,714,070	1,842,671	1,980,921	**497,755**	*0.29*	140.9	151.5	162.8	175.0	188.2	**47.3**
Total	**14,584,338**	**15,742,331**	**16,997,784**	**18,359,252**	**19,836,066**	**5,251,727**		**1,264.4**	**1,368.0**	**1,480.5**	**1,602.6**	**1,735.3**	**470.9**

Slow Growth Scenario	Projected Industrial Space Need 1/						*Floor to Area*	Predicted Land Need (Acres) 3/					
Employment Sector	**2008**	**2013**	**2018**	**2023**	**2028**	**08-28**	***Ratio 2/***	***2008***	***2013***	***2018***	***2023***	***2028***	***08-28***
Construction	696,112	746,017	799,501	856,819	918,246	**222,135**	*0.29*	66.1	70.9	75.9	81.4	87.2	**21.1**
Manufacturing	1,422,555	1,466,660	1,512,132	1,559,013	1,607,348	**184,793**	*0.29*	135.1	139.3	143.6	148.1	152.7	**17.6**
Wholesale Trade	6,721,248	7,148,104	7,602,069	8,084,865	8,598,322	**1,877,075**	*0.31*	607.1	645.6	686.6	730.2	776.6	**169.5**
Transportation, Warehousing & Utilities	2,830,576	2,981,857	3,141,223	3,309,107	3,485,963	**655,386**	*0.31*	251.5	265.0	279.1	294.1	309.8	**58.2**
Information	81,641	84,264	86,970	89,764	92,647	**11,006**	*0.26*	8.7	8.9	9.2	9.5	9.8	**1.2**
Professional & Business Services	518,914	565,167	615,543	670,409	730,166	**211,252**	*0.26*	55.0	59.9	65.2	71.0	77.4	**22.4**
Other Services	1,483,166	1,562,341	1,645,742	1,733,595	1,826,138	**342,972**	*0.29*	140.9	148.4	156.3	164.7	173.5	**32.6**
Total	**14,584,338**	**15,407,469**	**16,279,806**	**17,204,415**	**18,184,561**	**3,600,223**		**1,264.4**	**1,338.0**	**1,416.1**	**1,499.0**	**1,587.0**	**322.6**

1/ From Exhibit 1.07
2/ From Exhibit 1.08
3/ Assumes a non-traditional industrial land use factor of 10% from Regional Industrial Land Study Phase II (Otak, Inc., et al, 1999).
*Estimate

TECHNICAL APPENDIX I

PROJECTIONS OF HOUSEHOLD RETAIL SALES
MEDFORD UGB
2008-2028

Medium Growth Scenario		Per Household	Household Retail Spending in Millions (Households)					
NAICS	Category	Expenditures 1/	2008	2013	2018	2023	2028	'08-'28
441	Motor Vehicles and Parts Dealers	$6,792	$212.7	$234.3	$258.1	$284.3	$313.2	***$100.6***
442	Furniture and Home Furnishings Stores	$889	$27.8	$30.7	$33.8	$37.2	$41.0	***$13.2***
443	Electronics and Appliance Stores	$830	$26.0	$28.6	$31.6	$34.8	$38.3	***$12.3***
444	Building Materials and Garden Equipment	$3,588	$112.4	$123.8	$136.4	$150.2	$165.5	***$53.1***
445	Food and Beverage Stores	$4,312	$135.0	$148.7	$163.9	$180.5	$198.9	***$63.8***
446	Health and Personal Care Stores	$1,708	$53.5	$58.9	$64.9	$71.5	$78.8	***$25.3***
448	Clothing and Clothing Accessories Stores	$1,477	$46.3	$51.0	$56.1	$61.8	$68.1	***$21.9***
451	Sporting Goods, Hobby, Book and Music Stores	$673	$21.1	$23.2	$25.6	$28.2	$31.0	***$10.0***
452	General Merchandise Stores	$4,107	$128.6	$141.6	$156.0	$171.9	$189.4	***$60.8***
453	Miscellaneous Store Retailers	$928	$29.1	$32.0	$35.3	$38.9	$42.8	***$13.7***
722	Foodservices and Drinking Places	$3,275	$102.5	$113.0	$124.4	$137.1	$151.0	***$48.5***
	Totals/Weighted Averages	***$28,581***	***$894.9***	***$985.8***	***$1,086.0***	***$1,196.4***	***$1,318.0***	***$423.2***

High Growth Scenario		Per Household	Household Retail Spending in Millions (Households)					
NAICS	Category	Expenditures 1/	2008	2013	2018	2023	2028	'08-'28
441	Motor Vehicles and Parts Dealers	$6,792	$212.7	$237.1	$264.2	$294.6	$328.3	***$115.7***
442	Furniture and Home Furnishings Stores	$889	$27.8	$31.0	$34.6	$38.6	$43.0	***$15.1***
443	Electronics and Appliance Stores	$830	$26.0	$29.0	$32.3	$36.0	$40.1	***$14.1***
444	Building Materials and Garden Equipment	$3,588	$112.4	$125.2	$139.6	$155.6	$173.5	***$61.1***
445	Food and Beverage Stores	$4,312	$135.0	$150.5	$167.8	$187.0	$208.4	***$73.4***
446	Health and Personal Care Stores	$1,708	$53.5	$59.6	$66.4	$74.1	$82.6	***$29.1***
448	Clothing and Clothing Accessories Stores	$1,477	$46.3	$51.6	$57.5	$64.1	$71.4	***$25.2***
451	Sporting Goods, Hobby, Book and Music Stores	$673	$21.1	$23.5	$26.2	$29.2	$32.5	***$11.5***
452	General Merchandise Stores	$4,107	$128.6	$143.3	$159.8	$178.1	$198.5	***$69.9***
453	Miscellaneous Store Retailers	$928	$29.1	$32.4	$36.1	$40.3	$44.9	***$15.8***
722	Foodservices and Drinking Places	$3,275	$102.5	$114.3	$127.4	$142.0	$158.3	***$55.8***
	Totals/Weighted Averages	***$28,581***	***$894.9***	***$997.5***	***$1,111.9***	***$1,239.4***	***$1,381.5***	***$486.6***

Low Growth Scenario		Per Household	Household Retail Spending in Millions (Households)					
NAICS	Category	Expenditures 1/	2008	2013	2018	2023	2028	'08-'28
441	Motor Vehicles and Parts Dealers	$6,792	$212.7	$231.4	$251.8	$274.0	$298.2	***$85.5***
442	Furniture and Home Furnishings Stores	$889	$27.8	$30.3	$33.0	$35.9	$39.0	***$11.2***
443	Electronics and Appliance Stores	$830	$26.0	$28.3	$30.8	$33.5	$36.5	***$10.5***
444	Building Materials and Garden Equipment	$3,588	$112.4	$122.3	$133.0	$144.8	$157.5	***$45.2***
445	Food and Beverage Stores	$4,312	$135.0	$146.9	$159.9	$174.0	$189.3	***$54.3***
446	Health and Personal Care Stores	$1,708	$53.5	$58.2	$63.3	$68.9	$75.0	***$21.5***
448	Clothing and Clothing Accessories Stores	$1,477	$46.3	$50.3	$54.8	$59.6	$64.9	***$18.6***
451	Sporting Goods, Hobby, Book and Music Stores	$673	$21.1	$22.9	$24.9	$27.1	$29.5	***$8.5***
452	General Merchandise Stores	$4,107	$128.6	$139.9	$152.2	$165.7	$180.3	***$51.7***
453	Miscellaneous Store Retailers	$928	$29.1	$31.6	$34.4	$37.5	$40.8	***$11.7***
722	Foodservices and Drinking Places	$3,275	$102.5	$111.6	$121.4	$132.1	$143.7	***$41.2***
	Totals/Weighted Averages	***$28,581***	***$894.9***	***$973.7***	***$1,059.6***	***$1,153.0***	***$1,254.6***	***$359.7***

1/ Claritas, Inc. average retail sales figures for Medford, Oregon in 2007 dollars.

TECHNICAL APPENDIX J

PROJECTIONS OF COMMERCIAL RETAIL SPACE NEED
MEDFORD UGB
2008-2028

Medium Growth Scenario		Household Retail Spending (millions) 1/						Sales Support	Spending-Supported Retail Demand (SF) 3/					
NAICS	Category	2008	2013	2018	2023	2028	'08-'28	Factor 2/	2008	2013	2018	2023	2028	'08-'28
441	Automotive Parts, Accessories and Tire Stores	$212.7	$234.3	$258.1	$284.3	$313.2	***$100.6***	$171	1,368,468	1,507,566	1,660,802	1,829,615	2,015,586	***647,119***
442	Furniture and Home Furnishings Stores	$27.8	$30.7	$33.8	$37.2	$41.0	***$13.2***	$213	143,933	158,563	174,680	192,436	211,996	***68,063***
443	Electronics and Appliance Stores	$26.0	$28.6	$31.6	$34.8	$38.3	***$12.3***	$246	116,282	128,101	141,122	155,466	171,269	***54,987***
444	Building Materials and Garden Equipment	$112.4	$123.8	$136.4	$150.2	$165.5	***$53.1***	$157	785,078	864,877	952,788	1,049,634	1,156,324	***371,246***
445	Food and Beverage Stores	$135.0	$148.7	$163.9	$180.5	$198.9	***$63.8***	$384	387,066	426,409	469,752	517,500	570,101	***183,035***
446	Health and Personal Care Stores	$53.5	$58.9	$64.9	$71.5	$78.8	***$25.3***	$283	207,966	229,105	252,392	278,047	306,309	***98,343***
448	Clothing and Clothing Accessories Stores	$46.3	$51.0	$56.1	$61.8	$68.1	***$21.9***	$267	190,670	210,050	231,401	254,922	280,833	***90,164***
451	Sporting Goods, Hobby, Book and Music Stores	$21.1	$23.2	$25.6	$28.2	$31.0	***$10.0***	$240	96,612	106,432	117,250	129,168	142,298	***45,686***
452	General Merchandise Stores	$128.6	$141.6	$156.0	$171.9	$189.4	***$60.8***	$171	827,337	911,431	1,004,074	1,106,133	1,218,566	***391,230***
453	Miscellaneous Store Retailers	$29.1	$32.0	$35.3	$38.9	$42.8	***$13.7***	$236	135,425	149,190	164,355	181,061	199,465	***64,040***
722	Foodservices and Drinking Places	$102.5	$113.0	$124.4	$137.1	$151.0	***$48.5***	$290	388,571	428,067	471,578	519,512	572,318	***183,747***
	Totals/Weighted Averages	***$894.9***	***$985.8***	***$1,086.0***	***$1,196.4***	***$1,318.0***	***$423.2***		***4,647,406***	***5,119,793***	***5,640,195***	***6,213,493***	***6,845,065***	***2,197,658***

High Growth Scenario		Household Retail Spending (millions) 1/						Sales Support	Spending-Supported Retail Demand (SF) 3/					
NAICS	Category	2008	2013	2018	2023	2028	'08-'28	Factor 2/	2008	2013	2018	2023	2028	'08-'28
441	Automotive Parts, Accessories and Tire Stores	$212.7	$237.1	$264.2	$294.6	$328.3	***$115.7***	$139	1,683,043	1,876,046	2,091,183	2,330,991	2,598,298	***915,256***
442	Furniture and Home Furnishings Stores	$27.8	$31.0	$34.6	$38.6	$43.0	***$15.1***	$213	143,933	160,439	178,837	199,345	222,205	***78,272***
443	Electronics and Appliance Stores	$26.0	$29.0	$32.3	$36.0	$40.1	***$14.1***	$246	116,282	129,616	144,480	161,049	179,517	***63,235***
444	Building Materials and Garden Equipment	$112.4	$125.2	$139.6	$155.6	$173.5	***$61.1***	$157	785,078	875,107	975,460	1,087,322	1,212,011	***426,933***
445	Food and Beverage Stores	$135.0	$150.5	$167.8	$187.0	$208.4	***$73.4***	$384	387,066	431,453	480,930	536,081	597,556	***210,490***
446	Health and Personal Care Stores	$53.5	$59.6	$66.4	$74.1	$82.6	***$29.1***	$283	207,966	231,815	258,398	288,030	321,060	***113,094***
448	Clothing and Clothing Accessories Stores	$46.3	$51.6	$57.5	$64.1	$71.4	***$25.2***	$267	190,670	212,535	236,908	264,075	294,358	***103,688***
451	Sporting Goods, Hobby, Book and Music Stores	$21.1	$23.5	$26.2	$29.2	$32.5	***$11.5***	$240	96,612	107,691	120,040	133,806	149,150	***52,539***
452	General Merchandise Stores	$128.6	$143.3	$159.8	$178.1	$198.5	***$69.9***	$171	827,337	922,212	1,027,967	1,145,850	1,277,251	***449,914***
453	Miscellaneous Store Retailers	$29.1	$32.4	$36.1	$40.3	$44.9	***$15.8***	$236	135,425	150,955	168,266	187,562	209,071	***73,646***
722	Foodservices and Drinking Places	$102.5	$114.3	$127.4	$142.0	$158.3	***$55.8***	$290	388,571	433,130	482,800	538,165	599,880	***211,309***
	Totals/Weighted Averages	***$894.9***	***$997.5***	***$1,111.9***	***$1,239.4***	***$1,381.5***	***$486.6***		***4,961,981***	***5,530,999***	***6,165,270***	***6,872,275***	***7,660,357***	***2,698,376***

Low Growth Scenario		Household Retail Spending (millions) 1/						Sales Support	Spending-Supported Retail Demand (SF) 3/					
NAICS	Category	2008	2013	2018	2023	2028	'08-'28	Factor 2/	2008	2013	2018	2023	2028	'08-'28
441	Automotive Parts, Accessories and Tire Stores	$212.7	$231.4	$251.8	$274.0	$298.2	***$85.5***	$139	1,683,043	1,831,378	1,992,787	2,168,422	2,359,536	***676,493***
442	Furniture and Home Furnishings Stores	$27.8	$30.3	$33.0	$35.9	$39.0	***$11.2***	$213	143,933	156,619	170,422	185,442	201,786	***57,853***
443	Electronics and Appliance Stores	$26.0	$28.3	$30.8	$33.5	$36.5	***$10.5***	$246	116,282	126,530	137,682	149,817	163,021	***46,739***
444	Building Materials and Garden Equipment	$112.4	$122.3	$133.0	$144.8	$157.5	***$45.2***	$157	785,078	854,271	929,562	1,011,489	1,100,637	***315,559***
445	Food and Beverage Stores	$135.0	$146.9	$159.9	$174.0	$189.3	***$54.3***	$384	387,066	421,180	458,301	498,693	542,646	***155,580***
446	Health and Personal Care Stores	$53.5	$58.2	$63.3	$68.9	$75.0	***$21.5***	$283	207,966	226,295	246,240	267,942	291,558	***83,591***
448	Clothing and Clothing Accessories Stores	$46.3	$50.3	$54.8	$59.6	$64.9	***$18.6***	$267	190,670	207,475	225,760	245,658	267,309	***76,639***
451	Sporting Goods, Hobby, Book and Music Stores	$21.1	$22.9	$24.9	$27.1	$29.5	***$8.5***	$240	96,612	105,127	114,392	124,474	135,445	***38,833***
452	General Merchandise Stores	$128.6	$139.9	$152.2	$165.7	$180.3	***$51.7***	$171	827,337	900,254	979,598	1,065,935	1,159,882	***332,545***
453	Miscellaneous Store Retailers	$29.1	$31.6	$34.4	$37.5	$40.8	***$11.7***	$236	135,425	147,361	160,349	174,481	189,859	***54,434***
722	Foodservices and Drinking Places	$102.5	$111.6	$121.4	$132.1	$143.7	***$41.2***	$290	388,571	422,818	460,083	500,632	544,756	***156,185***
	Totals/Weighted Averages	***$894.9***	***$973.7***	***$1,059.6***	***$1,153.0***	***$1,254.6***	***$359.7***		***4,961,981***	***5,399,307***	***5,875,176***	***6,392,986***	***6,956,433***	***1,994,452***

1/ From Exhibit R.01
2/ Based on national averages derived from "Dollars & Cents of Shopping Centers," Urban Land Institute, 2000.
3/ Assumes a market-clearing retail space vacancy rate of 10%.
* Estimate

TECHNICAL APPENDIX K

PROJECTIONS OF COMMERCIAL RETAIL SPACE NEED
MEDFORD UGB
2008-2028

Medium Growth Scenario		Spending-Supported Retail Demand (SF) 1/						Retail	Commercial Retail Land Need (Acres)					
NAICS	Category	2008	2013	2018	2023	2028	'08-'28	F.A.R 2/	2008	2013	2018	2023	2028	'08-'28
441	Automotive Parts, Accessories and Tire Stores	1,368,468	1,507,566	1,660,802	1,829,615	2,015,586	***647,119***	*0.25*	125.7	138.4	152.5	168.0	185.1	***59.4***
442	Furniture and Home Furnishings Stores	143,933	158,563	174,680	192,436	211,996	***68,063***	*0.25*	13.2	14.6	16.0	17.7	19.5	***6.3***
443	Electronics and Appliance Stores	116,282	128,101	141,122	155,466	171,269	***54,987***	*0.25*	10.7	11.8	13.0	14.3	15.7	***5.0***
444	Building Materials and Garden Equipment	785,078	864,877	952,788	1,049,634	1,156,324	***371,246***	*0.25*	72.1	79.4	87.5	96.4	106.2	***34.1***
445	Food and Beverage Stores	387,066	426,409	469,752	517,500	570,101	***183,035***	*0.25*	35.5	39.2	43.1	47.5	52.4	***16.8***
446	Health and Personal Care Stores	207,966	229,105	252,392	278,047	306,309	***98,343***	*0.25*	19.1	21.0	23.2	25.5	28.1	***9.0***
448	Clothing and Clothing Accessories Stores	190,670	210,050	231,401	254,922	280,833	***90,164***	*0.25*	17.5	19.3	21.2	23.4	25.8	***8.3***
451	Sporting Goods, Hobby, Book and Music Stores	96,612	106,432	117,250	129,168	142,298	***45,686***	*0.25*	8.9	9.8	10.8	11.9	13.1	***4.2***
452	General Merchandise Stores	827,337	911,431	1,004,074	1,106,133	1,218,566	***391,230***	*0.25*	76.0	83.7	92.2	101.6	111.9	***35.9***
453	Miscellaneous Store Retailers	135,425	149,190	164,355	181,061	199,465	***64,040***	*0.25*	12.4	13.7	15.1	16.6	18.3	***5.9***
722	Foodservices and Drinking Places	388,571	428,067	471,578	519,512	572,318	***183,747***	*0.25*	35.7	39.3	43.3	47.7	52.6	***16.9***
	Totals/Weighted Averages	***4,647,406***	***5,119,793***	***5,640,195***	***6,213,493***	***6,845,065***	***2,197,658***	***0.25***	***426.8***	***470.1***	***517.9***	***570.6***	***628.6***	***201.8***

High Growth Scenario		Spending-Supported Retail Demand (SF) 1/						Retail	Commercial Retail Land Need (Acres)					
NAICS	Category	2008	2013	2018	2023	2028	'08-'28	F.A.R 2/	2008	2013	2018	2023	2028	'08-'28
441	Automotive Parts, Accessories and Tire Stores	1,683,043	1,876,046	2,091,183	2,330,991	2,598,298	***915,256***	*0.25*	154.5	172.3	192.0	214.0	238.6	***84.0***
442	Furniture and Home Furnishings Stores	143,933	160,439	178,837	199,345	222,205	***78,272***	*0.25*	13.2	14.7	16.4	18.3	20.4	***7.2***
443	Electronics and Appliance Stores	116,282	129,616	144,480	161,049	179,517	***63,235***	*0.25*	10.7	11.9	13.3	14.8	16.5	***5.8***
444	Building Materials and Garden Equipment	785,078	875,107	975,460	1,087,322	1,212,011	***426,933***	*0.25*	72.1	80.4	89.6	99.8	111.3	***39.2***
445	Food and Beverage Stores	387,066	431,453	480,930	536,081	597,556	***210,490***	*0.25*	35.5	39.6	44.2	49.2	54.9	***19.3***
446	Health and Personal Care Stores	207,966	231,815	258,398	288,030	321,060	***113,094***	*0.25*	19.1	21.3	23.7	26.4	29.5	***10.4***
448	Clothing and Clothing Accessories Stores	190,670	212,535	236,908	264,075	294,358	***103,688***	*0.25*	17.5	19.5	21.8	24.2	27.0	***9.5***
451	Sporting Goods, Hobby, Book and Music Stores	96,612	107,691	120,040	133,806	149,150	***52,539***	*0.25*	8.9	9.9	11.0	12.3	13.7	***4.8***
452	General Merchandise Stores	827,337	922,212	1,027,967	1,145,850	1,277,251	***449,914***	*0.25*	76.0	84.7	94.4	105.2	117.3	***41.3***
453	Miscellaneous Store Retailers	135,425	150,955	168,266	187,562	209,071	***73,646***	*0.25*	12.4	13.9	15.5	17.2	19.2	***6.8***
722	Foodservices and Drinking Places	388,571	433,130	482,800	538,165	599,880	***211,309***	*0.25*	35.7	39.8	44.3	49.4	55.1	***19.4***
	Totals/Weighted Averages	***4,961,981***	***5,530,999***	***6,165,270***	***6,872,275***	***7,660,357***	***2,698,376***	***0.25***	***455.6***	***507.9***	***566.1***	***631.1***	***703.4***	***247.8***

Low Growth Scenario		Spending-Supported Retail Demand (SF) 1/						Retail	Commercial Retail Land Need (Acres)					
NAICS	Category	2008	2013	2018	2023	2028	'08-'28	F.A.R 2/	2008	2013	2018	2023	2028	'08-'28
441	Automotive Parts, Accessories and Tire Stores	1,683,043	1,831,378	1,992,787	2,168,422	2,359,536	***676,493***	*0.25*	154.5	168.2	183.0	199.1	216.7	***62.1***
442	Furniture and Home Furnishings Stores	143,933	156,619	170,422	185,442	201,786	***57,853***	*0.25*	13.2	14.4	15.6	17.0	18.5	***5.3***
443	Electronics and Appliance Stores	116,282	126,530	137,682	149,817	163,021	***46,739***	*0.25*	10.7	11.6	12.6	13.8	15.0	***4.3***
444	Building Materials and Garden Equipment	785,078	854,271	929,562	1,011,489	1,100,637	***315,559***	*0.25*	72.1	78.4	85.4	92.9	101.1	***29.0***
445	Food and Beverage Stores	387,066	421,180	458,301	498,693	542,646	***155,580***	*0.25*	35.5	38.7	42.1	45.8	49.8	***14.3***
446	Health and Personal Care Stores	207,966	226,295	246,240	267,942	291,558	***83,591***	*0.25*	19.1	20.8	22.6	24.6	26.8	***7.7***
448	Clothing and Clothing Accessories Stores	190,670	207,475	225,760	245,658	267,309	***76,639***	*0.25*	17.5	19.1	20.7	22.6	24.5	***7.0***
451	Sporting Goods, Hobby, Book and Music Stores	96,612	105,127	114,392	124,474	135,445	***38,833***	*0.25*	8.9	9.7	10.5	11.4	12.4	***3.6***
452	General Merchandise Stores	827,337	900,254	979,598	1,065,935	1,159,882	***332,545***	*0.25*	76.0	82.7	90.0	97.9	106.5	***30.5***
453	Miscellaneous Store Retailers	135,425	147,361	160,349	174,481	189,859	***54,434***	*0.25*	12.4	13.5	14.7	16.0	17.4	***5.0***
722	Foodservices and Drinking Places	388,571	422,818	460,083	500,632	544,756	***156,185***	*0.25*	35.7	38.8	42.2	46.0	50.0	***14.3***
	Totals/Weighted Averages	***4,961,981***	***5,399,307***	***5,875,176***	***6,392,986***	***6,956,433***	***1,994,452***	***0.25***	***455.6***	***495.8***	***539.5***	***587.1***	***638.8***	***183.1***

1/ From Exhibit 2.27
2/ Assumes typical suburban retail profile: single-story with four parking spaces per 1,000 square feet of developed space.
*Estimate