



Step Two: Conduct the Economic Opportunities Analysis —Basic Approach

The Economic Opportunities Analysis (EOA) is defined in Oregon Administrative Rule (OAR) 660-009-0015. The Advanced approach follows the explanation of this Basic methodology. Worksheets that correlate to basic approach are included in Appendix B.

The Basic approach may be used by jurisdictions of any size to evaluate their current industrial and other employment land inventory and buildable land supply. It can rely mainly on existing data sources and does not require significant data collection, analysis or interpretation. It assumes that the jurisdiction does not have access to geographic information systems (GIS). This approach has three basic elements; estimate demand, identifying supply and determining the critical needs for industrial and other employment land. Though the demand and supply analysis may be conducted at the same time, and some jurisdictions may begin by conducting the supply analysis in this guidebook, the demand section is explained first.

Basic Approach—Demand

The purpose of the demand analysis is to identify industrial and other employment uses that can reasonably be expected to locate in an area. A review of national, state, regional county and local trends provides the context for local economic growth.

Demand Task Checklist.

- ➡ **Demand Task 1:** Analyze national, state, regional, county and local trends
- ➡ **Demand Task 2:** Forecast 20-year population & job growth by sector for a defined Market Region (MR)
- ➡ **Demand Task 3:** Assess community's economic development potential

Figure 1

Basic Steps in the Demand Analysis



- ➡ **Demand Task 4:** Calculate local capture of regional job growth forecasts and number of jobs that require vacant land
- ➡ **Demand Task 5:** Estimate job density by sector (jobs per acre)
- ➡ **Demand Task 6A:** Forecast 20-year land need for job growth in UGB
- ➡ **Demand Task 6B:** Forecast 20-year land need for public facilities to accommodate job growth in UGB
- ➡ **Demand Task 6C:** Aggregate land demand forecast for jobs and public facilities in UGB
- ➡ **Demand Task 6D:** Estimate long-term land demand by parcel size
- ➡ **Demand Task 6E:** Calculate short-term (5-year) land demand for local UGB by parcel size

Demand Task 1A. Assess national, state, regional, county and local economic trends.

Regional information is available from the Oregon Employment Department that can help jurisdictions complete this task. Qualitative and quantitative local experience over the past years, including land use applications and business activities are other important sources of information. The regional trend information may be compared to information available locally or regionally. Factors to consider include:

- ➡ Population trends and characteristics (historic growth rates, age, race, etc).
- ➡ Income (per capita, household, and family)
- ➡ Employment (by industry and occupation)
- ➡ Public policies, taxes, and fiscal policy
- ➡ Recruiting efforts, prospects, marketing successes and failures

Table 3 summarizes the basic employment forecasting methods that rely on past trends as an indicator of future growth. The Basic analysis worksheets utilize the Ratio Trend method. The methodologies can be used alone or in combination. They rely on these assumptions:

- Past growth is a good indicator of future growth
- Factors affecting local economic growth will not change substantially
- Selection of the base year can affect the forecast significantly

Table 3
Employment Forecasting Methods

Method	Description
Ratio trend	Uses current city/county ratio of employment to predict the future.
Trend extrapolation	Uses historical employment growth rates to predict the future.
Population/employment ratio trend	Determines a ratio between population and employment.
Comparative	Compares growth with larger, older areas. Consider social, economic, political and other variables.

To calculate employment forecasts, the state will accept a basic trend extrapolation, calculated annually over a 20-year period.

Demand Task 1A Objective: Ascertain regional and local trends in population and employment.

Data sources:

- ✓ Oregon Employment Department (www.qualityinfo.org)
- ✓ U.S. Census (www.census.gov)
- ✓ Oregon Department of Administrative Services, Office of Economic Analysis (www.oea.das.state.or.us)
- ✓ Regional agencies, such as Metro and Councils of Governments:

- Metro (www.metro-region.org)
- Central Oregon Intergovernmental Council (www.coic.org)
- Lane Council of Governments (www.lcog.org)
- Mid-Columbia Council of Governments (www.mccog.com)
- Mid-Willamette Valley Council of Governments (www.mwvcog.org)
- Oregon Cascades West Council of Governments (www.ocwcog.org)
- Rogue Valley Council of Governments (www.rvcog.org)
- Umpqua Regional Council of Governments (www.ur-cog.cog.or.us)

- ✓ ES 202 data (www.emp.state.or.us) (1-800-237-3710)
- ✓ U.S. Bureau of Labor Statistics (<http://www.bls.gov/>)
- ✓ Local permit data
- ✓ Claritas (www.claritas.com) Claritas is a marketing information resources company with some free information on their Web site. There is a charge for most of their information.
- ✓ Chambers of Commerce
- ✓ Anecdotal evidence, discussions with business leaders, business activity, etc.

Product: Trends in population and employment

Demand Worksheet Task: Task 1A. Enter Oregon Employment Department or adjusted 1980-2000 trends and current estimates for population for the market region in lines 2-4 and employment in lines 9-11. Estimate local share. Alternately, enter numbers for the local area, county or UGB only.

Demand Task 1B. Develop 20-year employment forecasts.

Population forecasts based on trends and other factors for each of 15 geographic regions are included in the Web site of the Oregon Employment Department (OED) (www.qualityinfo.org). Go to publications link and click on employment projections by industry

in the data column of the web page. However, the OED accounts only for covered employment. Non-covered (home-based businesses and other sole proprietorships) are not included. Jurisdictions may adjust OED information accordingly.

Jurisdictions may wish to use an alternate methodology for arriving at their employment forecast. However, it is advisable to compare this with the OED projection for consistency and to confirm these estimates with elected and appointed officials, as well as with DLCD staff.

Demand Task 1B Objective: Provide a regional economic development context for the local EOA. The Oregon Employment Department provides a biannual update and ten-year forecast of job growth for major job sectors in 15 market regions. This forecast information includes the local jurisdiction as well as surrounding communities. These job growth forecasts can be adjusted to include additional workers that are not covered by the state forecasts, such as home-based occupations.

Data sources:

- ✓ Oregon Employment Department Quarterly projections (www.qualityinfo.org)
- ✓ State of Oregon Office of Economic Analysis (www.oea.das.state.or.us)
- ✓ U.S. Census (www.census.gov)
- ✓ Oregon Population Center at Portland State University (www.cpa.pdx.edu/CPRC/about)

Product: Forecast of 20-year job growth by sector (industrial and other employment) for market region.

Demand Worksheet Task: Task 1B. Enter total current and projected population forecast in lines 5-7 and employment (job) forecast in lines 12-14. Disaggregate these projections for commercial, institutional and industrial jobs in lines 16-26.

or expanded development in general, as well as the specific types of industrial and commercial uses in the vision and goals. The Goal 9 rule (OAR 660-0015 (4)) suggestions considering the following:

- Location, size and buying power of markets
- Availability of transportation facilities for access and freight mobility
- Public facilities and public services
- Labor market factors
- Materials and energy supply, cost
- Necessary support services
- Limits on development due to federal and state environmental protection laws
- Educational and technical training programs
- Other factors

These also are called production factors—inputs that businesses use to produce goods and services. Jurisdictions that can supply these and others in relatively ample amounts of high quality and low cost may have comparative advantages.

Table 4 is an example of a buildable lands calculation. Employment lands may include commercial and institutional uses such as hospitals, prisons, schools, and public

Table 4 Sample Buildable Land Calculation			
	Plan Designation		
	Commercial	Light Industrial	Heavy Industrial
Total acres	100	50	150
- Developed acres	75	15	60
= Vacant acres	25	35	90
- Constrained acres	4	6	12
= Unconstrained vacant acres	21	29	78
+ Redevelopable acres (optional)	3	0	10
= Total buildable acres	24	29	88
Density Assumption (employees per acre)	12 to 20	10 to 15	7 to 12
Estimated holding capacity (employees)	288 to 480	290 to 435	616 to 1,056

_____ offices. Calculating redevelopable acres is optional for
_____ jurisdictions.

_____ Conduct interviews with local and regional economic
_____ development practitioners such as representatives from the
_____ Oregon Economic and Community Development Department,
_____ neighboring jurisdictions, ports and other entities.

_____ In addition to market factors, public policy can affect the supply,
_____ cost and quality of a community's economic development
_____ potential through:

_____ Regulations. Though they are recognized as necessary to protect
_____ the health and safety of a community and help maintain the
_____ quality of life, many communities are considering how standards
_____ and procedures can be simplified to help keep and attract
_____ businesses. These include flexible zoning, streamlined permitting
_____ procedures and allowing home-based business operations.

_____ Taxes. This may be less important in decisions of local businesses
_____ than consideration of the costs of transportation, raw materials
_____ and capital. However, workers compensation and sales and
_____ property tax may affect some siting decisions of out of state
_____ businesses.

_____ Financial incentives. These are more effective at redirecting
_____ growth within a region than they are at providing a competitive
_____ advantage between regions. Urban

_____ renewal areas (URA's) or tax increment financing (TIF) districts can
_____ also be used to direct growth.

_____ Industry clusters. Similar firms can realize operational savings and
_____ have access to a pool of skilled labor when locate close-by. Public
_____ policies can encourage such clustering.

Quality of life. An area's favorable weather, recreational opportunities, culture, low crime rate, good schools, clean environment and similar factors attract skilled and educated workers.



Innovative capacity. A culture that promotes innovation, creativity, flexibility and adaptability helps keep an area economically vital and competitive. Government can play a role in providing services and regulating development and business activities that are responsive to such needs.

Demand Task 3 Objective: Conduct a relative comparison of location, access, available public facilities, labor markets, materials/energy costs, and other factors (such as land availability) to help determine local job growth capture rates.

Data sources:

- ✓ Oregon Department of Employment Regional Economic Profile (www.emp.state.or.us)
- ✓ Bureau of Economic Analysis (<http://www.bea.gov/>)
- ✓ Oregon Labor Market Information System (<http://www.olmis.org>)
- ✓ US Census (<http://www.census.gov>)
- ✓ Employment Security 202 data (Oregon Employment Department)
- ✓ Local transportation system / public facility plans
- ✓ Local education system
- ✓ Stakeholder interviews

Product: Evaluation of community economic development potential, including advantages, disadvantages opportunities and constraints. Focus on emerging trends, competitive strengths and weaknesses, home occupations and other relevant local market sectors that address a community's economic development potential.

Demand Worksheet Task: Task 3. Document local competitive market advantages and disadvantages, Enter scores in lines 29-37. Use this information to estimate the amount of regional employment the jurisdiction expects to "capture". This is referred to as the estimated capture rate.

Demand Task 4. Calculate local job growth.

Demand Task 4 Objectives: Utilize the results from Tasks 1 through 3 to estimate future capture rates and the resulting job growth within a market region. Task 4A results in a total 20-year job growth forecast. The objective of Task 4B is to allocate the total local job growth forecast between those that require vacant land and other that can locate on redeveloped or infill sites. While an estimate of the percentage of job growth that can be allocated to redevelopment is acceptable, a more thorough analysis of redevelopable sites is possible. This may be done by assuming parcels with an improvement value less than the land value are redevelopable.

Data sources:

- ✓ Interviews with regional economic development specialists, developers, business managers, bankers, real estate brokers.
- ✓ Assessors' information

Product: Percentage of market region's job growth that can be expected to be "captured" locally.

Demand Worksheet Tasks: Tasks 4A and 4B. Enter estimates in lines 40-43 and 46-49 of job forecasts by sector using an assumption of what share of the market region is anticipated to be "captured" in the local planning area.

Demand Task 5. Estimate job density.

There are several methods for estimating job density. The second method, *population/developed land ratio*, is the easiest to use, as most jurisdictions have current- year population estimates and forecasts. The third method, *employment/ developed land ratio*, is similar to the first, it relies on local employment estimates and forecasts. The first method, *employees per area*, requires assumptions. Employment density varies considerably by industry—and even within industries. Typical employment densities per net acre range from 8 - 12 jobs for industrial; 14 - 20 jobs for commercial; and 6 - 10 jobs for institutional/other jobs. Of importance is whether the assumption is for net acres (land that is available for sale in parcels, or lots after roads, environmental lands, and other infrastructure have already been deducted); or gross acres (total land before those deductions). As a general rule, it is assumed that there are more employees per acre on a net acre than on a gross acre.

A fourth method would be to consult with local developers, business leaders and others to estimate land need. Expert consultation may be used in conjunction with any of the other methods.

Table 5 Basic Methods for Estimating Land Demand	
Method	Description
1. Employee per acre (EPA) ratio	Assumes a specific employment density, expressed in employees per acre. At the simplest level, the method uses an aggregate EPA ratio for all new employment. Requires both a current employment estimate and an employment forecast.
2. Population/developed land ratio	Uses the number of developed industrial and other employment acres per 1000 persons and extrapolates it to the planning horizon using the local population forecast.
3. Employment/developed land ratio	Uses the number of developed industrial and other employment acres per 1000 employees and extrapolates it to the planning horizon using the local population forecast. Requires both a current employment estimate and an employment forecast.
4. Expert consultation	Relies on the expertise of local developers, business leaders and others to estimate land needs.

Table 5 Summarizes basic methods for estimating land demand. The Basic analysis worksheet process utilizes the employee per acre (EPA) process.

A variation of the third method is to estimate the number of expected employees through assumptions or floor-to-area ratios (FAR) and square feet of built space per employee. For example, assumptions of 500 square feet of total (not usable or leasable) office space per employee and of an FAR of 0.3 (built space equals 30% of the buildable area) yields about 26 employees per net acre, or about 21 employees per gross acre. This method tends to yield greater densities than those typically assumed for employees per acre, perhaps because the FAR assumptions for a single lot are not easy to sustain over a larger area.

Demand Task 5 Objective: Select the job density, or jobs per net buildable acre; calculate local estimates for job density.

Data sources:

- ✓ Current population/employment estimates and forecasts
- ✓ Employee-per-acre assumptions

Product: Total jobs per acre for industrial and other employment estimated by sector.

Demand Worksheet Task: Task 5. Use the subtotals for industrial and other employment job density, or from lines 46, 47 and 48. Divide by a jobs-per-acre allowance and enter into lines 52-55.

Demand Task 6. Estimate land demand.

An estimate of local land demand can be completed in several steps numbered 6A-6E in the worksheet.

Demand Task 6 Objective: Identify land demand for industrial and other employment sectors.

Data sources:

- ✓ Current population/employment estimates and forecasts
- ✓ Employee-per-acre assumptions

Product: Accurate estimate of land demand.

Demand Worksheet Task: Task 6A-6E. Use information from Task 4 (lines 46-49) to multiply by employee per acre assumptions identified in Task 5 (lines 52-55). Subtract a 25% or other local appropriate allowance for public facilities. Identify a 20-year and 5-year demand forecast. Enter estimates in lines 70-74 for 20-year supply; lines 84-87 for 5-year supply.

“Special siting” needs include but need not be limited to large acreage sites, special site configurations, direct access to transportation facilities, sensitivity to adjacent land uses, or coastal shoreland sites designated as suited for water-dependent use under Goal 17.

Basic Approach—Supply

The purpose of the land supply inventory is not only to document how much land is available for industrial and other employment uses, but also to help jurisdictions estimate “holding capacity.” Holding capacity is the amount of employment that can be accommodated on an area of land. Consideration of specific site characteristics and preservation of prime industrial land also are important. Developable industrial and other employment land supply can be estimated by considering:

- ➡ Gross vacant acres, including fully-vacant and partially-vacant parcels
- ➡ Gross buildable vacant acres, subtracting unbuildable acres from total acres

- ➔ Net buildable acres, subtracting land that is unbuildable or needed for future public facilities from gross buildable vacant acres

The data needed to conduct such an analysis, using only local knowledge and fieldwork and not GIS, includes the following:

- ➔ Comprehensive plan and zoning maps
- ➔ County assessor parcel maps
- ➔ Aerial photos (if available)
- ➔ Field analysis

Supply Task Checklist.

- ➔ **Supply Task 1:** Estimate existing vacant industrial and other employment land supply in local UGB
- ➔ **Supply Task 2A:** Estimate local long-term (20-year) land constraints
- ➔ **Supply Task 2B:** Estimate local short-term (5-year) land constraints
- ➔ **Supply Task 2C:** Estimate local vacant land supply subtracting long-term land constraints
- ➔ **Supply Task 2D:** Estimate local vacant land supply subtracting short- and long-term land constraints

Supply Task 1. Determine existing vacant/partially vacant parcels on the plan map.

Supply Task 1 Objective: Estimate the total land area inside the UGB by zoning type and site sizes.

Data Sources:

- ✓ Comprehensive plan map
- ✓ Aerial photos
- ✓ Wetland maps

- ✓ Field verification
- ✓ Flood maps

This task can be labor-intensive. "Windshield surveys" are an effective way to estimate the redevelopment capacity of specific sites and may be color-coded on the county assessor's maps.

Product: Vacant industrial and other employment land supply totals, in acres.

Supply Worksheet Task: Task 1. Vacant land supply by size of site, number of tax lots and acres. Insert totals and subtotals for large (more than 10 acres), standard (1-10 acres) and small (less than one acre) industrial and other employment sites into supply worksheet lines 1-7. Characteristics (slope, environmental constraints and other factors) may be noted in this analysis.

Supply Task 2. Estimate development constraints.

There are three primary types of development constraints:

- ➡ Lack of urban services and infrastructure: streets that do not meet urban standards; high levels of traffic congestion; inadequate sewer, water, power or telecommunication systems.
- ➡ Environmental issues and land use regulations: natural geologic hazards, steep topography, wetlands, floodplains, riparian buffer setbacks, hazardous waste materials, and regulations that limit the type, location and extent of development allowed.
- ➡ Property ownership: land may be buildable and suitable for development but not readily available because of land-banking or speculation. These properties may be considered in the long-term rather than short-term land supply.

Supply Task 2 Objective: Estimate the net buildable short-term and long-term land supply after accounting for development constraints.

- Task 2A: focus on long-term development constraints, such as steep slopes, flood plains, wetlands, and public rights-of-way.
- Task 2B: consider short-term land constraints, such as ownership, elevation, availability of utilities and access.
- Tasks 2C and 2D: local net buildable land supply, accounting for long-term and short-term constraints.

Data Sources:

- ✓ Field observations and aerial photos

Product: Estimate long-term and short-term land constraints due to steep slopes, floodplains, wetlands, and public right of way for number of small, standard and large sites by tax lots and acres.

Supply Worksheet Tasks: Tasks 2A and 2B. Enter constraints as a portion of site acreage by type of use into lines 8-13 and 14-19.

Supply Worksheet Tasks: Tasks 2C and 2D. Subtract long- and short-term development (Tasks 2A and 2B) from gross vacant acres (Task 2A and 2C). Enter into lines 20-25 for net long-term supply and lines 26-31 for net short-term supply by type of use.

Basic Approach: Reconciling Demand and Supply (Determine Land Need)

The last step is to compare industrial and other employment land demand with supply to determine whether the jurisdiction has a short- (5-year) and long-term (20-year) supply of ready-to-develop land. This 20-year estimate has inherent limitations, as it is both highly aggregated and long-term. The Goal 9 rule places an emphasis on identifying sites that are ready to develop in the short-term (1-5 years).

Table 6 shows a sample comparison of demand and supply.

Table 6 Sample Comparison of Demand and Supply						
Parcel Size*	Existing Total Vacant Land Supply	Net (Unconstrained) Land Supply	Projected Short-Term Parcel Demand (years 1 to 5)	Projected Long-Term Parcel Demand (years 6 to 20)	Additional Land Needs (parcels)	Comments
Less than 1 acre	12	2	0	0	0	Surplus of small (less than 1 acre) infill parcels
1 to 5 acres	6	1	1	3 to 4	3 to 4	Additional "ready to develop" sites needed
6 to 10 acres	0	0	1	1 to 2	2 to 3	Additional "ready to develop" sites needed
10 + acres	1	0	0	1	0	Little demand likely in this category. Incentives needed to spur development.
Total parcels	19	3	2	5 to 7	5 to 7	

Reconciliation Task Checklist.

- ➡ **Reconciliation Task 1A:** Carry over local 5-year net new land demand for UGB
- ➡ **Reconciliation Task 1B:** Carry over local 5-year land supply for UGB
- ➡ **Reconciliation Task 1C:** Forecast for 5-Year land surplus or deficit for local UGB
- ➡ **Reconciliation Task 2A:** Carry over local 20-year net new land demand for UGB
- ➡ **Reconciliation Task 2B:** Carry over local 20-year land supply for UGB
- ➡ **Reconciliation Task 2C:** Forecast for 20-year land surplus or deficit for local UGB

