

ECONOMIC IMPACTS OF DATA CENTERS

Industry Overview

Data Centers are any building designed solely to house computer equipment, which can serve multiple functions, including housing computer process power, hosting enterprise software applications for large companies, housing networking equipment (including website servers) and perhaps their most common function, housing data storage and backup facilities for companies.



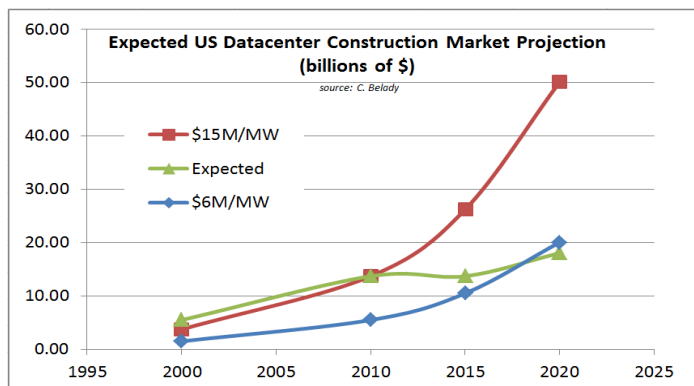
A data center typically provides some level of on-site information technology staffing, redundant electrical and mechanical systems to maintain computers in an ideal operating environment, and increased physical and information security beyond the level of a company's offices.

Many different industries utilize data centers for their operations, including nearly all Fortune 1000 companies. In addition, health care providers, financial services companies, banks, telecommunications firms, and any internet-based companies, especially search engine firms, e-retailers and web hosting providers require mission-critical environments of data centers. Growth in data center utilization is being driven by a variety of factors, including:

- **Internet Market Growth** – the proliferation of mobile devices, web-enabled software and remote computing in the “cloud” is the single biggest driver of new, large-scale data center development today.
- **IT Consolidation** – companies have discovered great cost savings from IT restructuring by combining operations with different underlying technologies, locations and cost structures.
- **Increased Reliability** – higher computer density, increased uptime, backup requirements and replacement of outdated centers and technology has been a driving force in data center growth.
- **Government Regulations** – requirements of corporate information and private health care information have necessitated digitization of records and security of these records to prevent disclosure.
- **Disaster Prevention & Recovery** – in the aftermath of the 9/11 terrorist attacks and Hurricane Katrina, companies have realized that offsite, disaster-resistant data centers are necessary to ensure continuity of operations.
- **Efficiency & Cost Effectiveness** – is a compelling force behind consolidation, reliability and other financial factors that drive down the cost of operation by creating computing “warehouses.”

Market Trend

According to Forrester Research, data centers are predicted to grow by 80% by 2015. That growth totals about \$42 billion, representing a compounded growth rate of 39%. In 2010, roughly **170** data centers were built in the U.S. By 2020, **454** data centers are forecast to be built annually.



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Perceptions and Facts about the Data Center Industry

Several common misperceptions about the data center industry exist and we address each one below. In the minds of some, data centers do not represent a significant economic contribution so the industry should not be a priority for economic development efforts. Others argue that the jobs-to-electric-power-consumed ratio is too small vis-à-vis other high technology or manufacturing opportunities. Another viewpoint is that with property tax exemptions, data centers take away from the tax base and don't support local communities. Last, some argue that data centers are a growing industry, so they should not be built in Oregon. These perceptions are either not based in fact or are too simplistic.

Viewpoint	Fact
<p><i>Data centers are not a significant economic contributor</i></p>	<p>The reality is that data centers represent an enormous economic impact, particularly for smaller, rural communities. Short of semiconductor and solar panel manufacturing, no industry is investing more in facilities today.</p> <p>Construction and equipping of data centers averages roughly \$700 - \$1,000 per square foot, so every 100,000 sf represents a range of \$70-\$100 million in expenditures. Google's data center facility in The Dalles cost \$600 million and now employs 200 people, while the first phase of Amazon's Boardman data center is expected to be 120,000 sf. Facebook has already constructed more than 300,000 sf in Prineville and is now building a second facility of the same size.</p> <p>These expenditures are felt throughout a community, creating an economic ripple effect that positively impacts contractors and sub-contractors, retail stores, restaurants, hotels, and local governments. Impacted companies ramp up hiring to handle the workload and pay additional corporate income taxes. The employees they hire then pay more personal income taxes—the lifeblood of Oregon's general fund.</p> <p>Locally, most data centers pay franchise fees on all electric energy usage, usually in a range of 4-7% that result in hundreds of thousands of dollars of new, discretionary funding to the cities where these centers locate.</p> <p>In Prineville, leaders credit Facebook's franchise fee payments with eliminating the need for yet another series of drastic cuts to education and infrastructure. Facebook, they say, has had a transformative effect on their community, which had struggled with its transition from wood products and one of Oregon's highest unemployment rates.</p>

<p><i>Data centers consume a lot of power while generating few jobs. Efforts would be better focused on manufacturing or other technology opportunities.</i></p>	<p>It is true that the number of direct jobs created by data centers for the amount of power used is among the lowest of any industry now and historically. But the reality is that macro trends are driving demand for centralized computing, as outlined on page 1.</p> <p>Every time a person uses an internet browser, incremental demand is placed on a data center. Nearly every electronic transaction in the purchase of goods or services has the same net effect. Download software online? More demand for data center</p>
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	<p>computing is generated.</p> <p>Skeptics argue that more jobs could be created in manufacturing, high technology, commercial or retail sectors with the same power used by data centers. While this is true, attracting large-scale manufacturing or high technology project—particularly for small rural communities—is a low probability endeavor.</p> <p>The U.S. has lost roughly 5 million manufacturing jobs over the past 15 years. Data centers are being constructed globally; however, there is currently no threat on the horizon slowing the pace of development in North America, either jobs or facilities. In short, data center functions and employment <i>are not being outsourced</i> overseas.</p>
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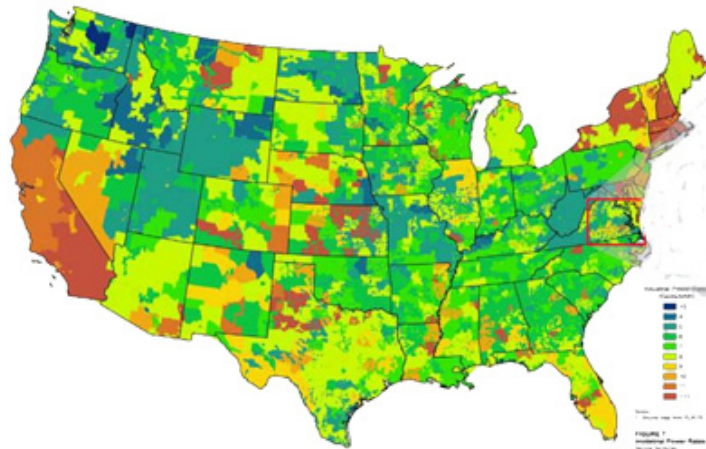
<p><i>Data centers aren't desirable in Oregon</i></p>	<p>The other reality is that data centers will be constructed somewhere in the country to meet demand, so why not Oregon? Oregon is <i>both ideally and uniquely suited</i> to capture a significant portion of data center development. This advantage is a result of:</p> <ul style="list-style-type: none"> ▪ Oregon's geographic position between Washington and California ▪ The capacity and reliability of the Bonneville Power Administration (BPA) power backbone which runs through the center of the state and along the Columbia River, and ▪ Favorable—although certainly not the lowest—energy costs in the nation (see map on the following page). <p>Electric power generation and transmission in Oregon is dominated by BPA, which sends power from hydroelectric projects on the Columbia River to Oregon, Washington and California. This infrastructure investment, along with an outstanding wind resource, has fueled development of nearly a gigawatt of windmill farms along the Columbia River, many of which had to be idled in 2011 because river flows were too high. Data center development in Oregon, near the Columbia River or BPA's transmission lines, could help alleviate this bottleneck, and in turn create badly needed jobs and economic activity.</p>
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<p><i>Data centers erode the local tax base and don't support local communities where they locate.</i></p>	<p>Given the magnitude of investments by the data center industry and the significant ongoing operational costs once a facility is up and running, incentives play a key role in site location decisions.</p> <p>Using the previous example, a \$100 million facility in Oregon might generate an annual property tax bill of \$1.7 million. Oregon's property tax incentives via the Oregon Enterprise Zone program offer data centers the ability to <i>temporarily</i> exempt property taxes, and mitigate much of this cost in the short (3 to 5 years) and potentially intermediate term (15 years), provided certain conditions are met.</p> <p>What Oregon's Enterprise Zone program does not allow is to erode the existing tax base—only new, job-creating investments may be exempted and with tough conditions exacted on the size of the</p>
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investment, number of jobs created and average wages of those jobs. Without these exemptions, Oregon does not compete well for the data center industry since its average industrial power rates are not the lowest in the country (blue and dark blue areas below).

Industrial Power Rates in the U.S.



Conclusion

The Central Oregon region has debated the merits of the data center industry and has chosen to pursue it as a solid diversification tool, so there is a base of public support for the initiative. In particular, Crook County and Prineville leaders have embraced data centers as a means to build on the natural advantages they have as a community (power capacity, power reliability, proximity to BPA's infrastructure, and a favorable climate that significantly reduces data center cooling costs). Crook County leaders cite their experience with Facebook—an involved community partner and one interested in sharing its proprietary technology for the greater good—as further reason to develop data centers.



FACT SHEET | ASSESSING THE IMPACT OF THE FACEBOOK DATA CENTER ON CENTRAL OREGON

\$4.5 million

Overall economic impact of the Facebook Data Center each year. When tax incentives through the long term enterprise zone are considered, this number is reduced to \$2.5 to \$3.0 million.

\$2.5 million

System development charges (SDCs) Facebook paid to the City of Prineville that support infrastructure and development.

\$1.0 million

Facebook pays a 5.5% power franchise fee to the City of Prineville. At full buildout, that equates to \$1.0 million annually.

THE SHORT-TERM ECONOMIC IMPACT OF CONSTRUCTING THE FACEBOOK DATA CENTER HAS BEEN SUBSTANTIAL

- Since January 2010, a total of 1,400 construction workers, including union craft laborers, were employed in the initial phase of the project.
- 50% of the construction workers were local contractors. At peak construction, 200 to 300 workers were on the job site daily.
- The construction impact is expected to continue for another 12 to 18 months with the second Facebook building.

DEVELOPMENT FEES PAID BY FACEBOOK BOLSTER COUNTY AND CITY BUDGETS, INFRASTRUCTURE

- \$2.5 million in system development charges (SDCs) paid to the City of Prineville.
- \$500,000 in permitting and planning fees to the City of Prineville and Crook County.
- \$180,000 payment to ODOT for intersection improvements to Tom McCall and Hwy 126 intersection.
- Millions of dollars of upgrades to power, water, sewer, and fiber capacity were made that can benefit all businesses.

CONSIDER THE LONG-TERM ECONOMIC IMPACT OF FACEBOOK'S LOCAL PRESENCE

- 54 full-time workers are currently directly employed by Facebook, with another 10 to 15 expected with the second building. 70% of the employees are Prineville residents.
- For each Facebook employee, at least one additional job is created by vendors and suppliers.
- Average compensation for an employee at the data center is at least \$53,000 per year, including benefits.
- Over \$3,000,000 in new payroll generated annually.
- A 5.5% power franchise fee is imposed by the City of Prineville. Annual revenue at full buildout is expected to be \$1.0 million.
- For 15 years, Facebook an annual contribution of \$110,000 in community fees—a cash contribution the City may use at its discretion.
- In 2011, Facebook donated \$100,000 to community programs; that amount is likely to grow.
- Although not quantifiable, property values and taxes collected by the County have benefited from Facebook's entry.

NATIONAL EXPOSURE OF THE FACEBOOK PROJECT HAS PUT PRINEVILLE—AND ALL OF CENTRAL OREGON—ON THE MAP

- Over the last two years, considerable press attention has been focused on Facebook’s Prineville data center. The most notable stories include the decision to locate in Central Oregon, Greenpeace allegations, unveiling of the data center, the Open Compute project, and property tax confusion with Oregon’s Dept. of Revenue.
- Many of the media stories have received national attention, with 6 *Associated Press* stories, 6 in *Forbes*, and 3 in *Blomberg / Businessweek*. At the statewide level, *Oregon Public Broadcasting* shows 179 mentions of “Facebook + Prineville,” the *Oregonian* has over 50 media mentions, and *Portland Business Journal* has 14, several of which have been widely distributed across other *Business Journal* publications including the *Silicon Valley / San Jose Business Journal*. Indeed, the *SF Chronicle* has covered Facebook in conjunction with its Prineville location 9 times, the *San Jose Mercury News* and *SiliconValley.com* 3 times each. Portland TV stations have covered the Prineville data center, collectively, in 22 stories.

THE FACEBOOK PROJECT ADDS DIVERSITY, VITALITY TO THE REGION’S ECONOMY

- Central Oregon has long sought to diversify its regional economy, beyond one dominated by tourism and wood products, by building strength in selected industries. Under EDCO’s leadership, sectors were selected based on their growth prospects and an assessment of the natural strengths Central Oregon offers relative to competing locations in the U.S. Among targeted sectors such as alternative energy, software, bioscience and medical device companies, data centers figure in prominently.
- Via its Open Compute project, Facebook has invited many visitors to tour the facility to understand its unique energy saving evaporative cooling system, next generation servers, and distributed data network approach. Facebook has successfully put Prineville on the global map—to the degree that those in tech simply refer to it as “Prineville,” with no state designation.

BEYOND CENTRAL OREGON, OTHER COMPANIES IN OREGON BENEFIT FROM THE FACEBOOK DATA CENTER

- Many of the parts that are used in Facebook’s proprietary servers are made by Intel
- Intel’s fabrication operations in the greater Portland area benefit from increased local demand.

BUSINESSES THROUGHOUT CENTRAL OREGON DIRECTLY IMPACTED BY FACEBOOK:

Advanced Portable Toilets, Bend	Northwest Premier Builders, Inc., Bend
Alert Safety Supply, Inc., Redmond	Office Value, Bend
Alpine Glass Company, Bend	Oregon Electric Group, Bend
Aspen Ridge Electric, Redmond	Overall Petroleum, Prineville
Bend Construction Supply, Bend	Overhead Door, Bend
C-2 Utility Contractors, Inc. Bend	Pacific Power, Oregon
Carlson Sign, Bend	Platt, Redmond
Carlson Testing, Bend	P.V. Trackers, Bend
Cedar Creek Landscaping, Prineville	Quality Drilling, Bend
Central Oregon Redi-Mix, Bend	Quality Drywall Construction, Bend
Classic Coverings and Design Inc., Bend	Rickman Excavation, Powell Butte
Design Space Modular Bldg., Inc., Redmond	Roger Langlier, Bend
Earth20, Culver	SepticPROs, Prineville
Emery Plumbing, Prineville	Stedman Sheetmetal, Inc., Redmond
EoFF Electrical Supply, Bend	The Stoner Electric Group
Fab-Tech LLC, Prineville	Synergy, Bend
Fabulous Floors, Inc., Bend	Temp Air, Bend
Ford Graphics, Bend	Vernam Crane, Redmond
GH Surveying, Bend	We Cut Concrete, Bend
Gradeline, Bend	Western Water Development Corp., Redmond
Hooker Creek, Bend	WHPacific, Inc., Bend
JKD Construction, Bend	Wolf Plumbing, Prineville
Northwest Laundry Services, Prineville	Woodward Bros, Prineville