

# Data Center Operations Location Factors

By Brian P. Corde, Atlas Insight, LLC  
Managing Partner

Some of the most sought after projects in today's competitive site selection world are not simply the major manufacturing operations or the Fortune 500® corporate headquarters, but the data centers. While these "factories of tomorrow" lack the direct employment opportunities typically found in major manufacturing operations, the economic benefits that can be derived both at the state and local level can have a dramatic impact on the economy.

Since all data centers are not created equal, the main focus of this article is major data center operations. This is primarily due to the impact these types of facilities have, making them very attractive site selection targets. This article will point out the critical factors that companies consider when locating a data center, the issues that can be overcome by a community when being evaluated for such a facility, and some of the trends that may impact the location of these centers in the future.

The decision-making criteria that gets evaluated during the site selection process for a data center may be similar to what you would expect to see for a large scale manufacturing operation; however, some unique nuances exist. These nuances can be broken down into a few general categories including: Environmental; Workforce and Support; Infrastructure; and Cost Considerations. Often these criteria can be quite rigid causing locations to be routinely cut during the pre-screening process, even before an economic development agency

Brian P. Corde  
Atlas Insight, LLC  
Managing Partner

## Experience

Brian Corde is a co-founder and Managing Partner at Atlas Insight, LLC, an independent member of the BDO Seidman Alliance Firm Network. Atlas assists businesses from all sectors in helping them choose strategic operating locations for their operations, helping create competitive advantage and achieve overall corporate goals by using location and incentives as ways to reduce operating costs and produce optimum results.

Brian brings 16 years of economic development experience to the Atlas team. Prior to founding Atlas, Brian was a Regional Practice Leader within BDO Seidman's Business Location Incentives and Site Selection (BLISS) group and was the point person on the firm's US and European site selection clients. Prior to joining BDO, Brian was a Partner with Mintax, where he developed their site location and discretionary incentive practice and held the position of Executive Director over the Location Advisory and Economic Development Incentive group at ADP. Throughout his career Brian has assisted numerous Fortune 500® companies such as Wells Fargo, Allstate, HSBC, Kraft, Philip Morris, Pfizer, Computer Sciences Corporation, and Yahoo with



their site selection and incentive needs. Brian has also assisted government agencies with their business attraction and retention policies, and has helped write incentive legislation to keep them competitive within the global marketplace.

Brian has authored numerous articles for various trade publications including *Expansion Management*, *Site Selection Magazine*, and *The Business Xpansion Journal*, and has been the featured speaker at conferences such as *Industrial Asset Management Council*, *CoreNet Global*, *Tax Executive Institute*, and *The World Research Group*. Brian currently sits on the editorial advisory board of *Business Xpansion Journal*, an industry trade publication and is the Chairman of the Associate Membership Committee for IAMC.

## Education and Awards

Brian is a graduate of Rutgers University with a degree in Economics with concentrations in Accounting and Finance. He received accolades for his work within the Labor Studies Department, and was invited back as a teaching assistant.

In 2011, one of Brian's site selection projects won a CiCi award given by Trade and Development Magazine for major community impact. After Hurricane Katrina, Brian was an invited guest of the Governor of Louisiana in Washington, DC to help develop strategy and incentive policy to encourage redevelopment in the states of Florida, Mississippi and Louisiana.

has been contacted. However, there are certain criteria that effective policy direction can help to overcome, laying the groundwork for positive outcomes for a community.

## Environmental

With respect to environmental factors, many communities are in a difficult situation. Their efforts and policies may not be able to overcome the most basic of hurdles during the site selection search. Leading the environmental risk analysis

is whether there is a propensity for natural disaster. All of the traditional threats apply in this category: hurricane, flood, fire, tornado, etc. While a community can do little to remove themselves from the threat of these occurrences, the way they respond to a disaster is within their control. Demonstrating that a company can build to resist damage, knowing that power won't be down for an extended period of time, and showing that employees can still get to work may be the best that they can do.

Threat of natural disaster is not the only environmental factor under consideration. Daniel Ward, formerly with a leading global financial services firm, had a role within the IT department in which he was one of the key decision-makers on the team that determined the company's data center strategy and locations. Dan points out that not only was the company's philosophy to locate "at least 20 miles inland and 1,000 feet up," but there were many other factors that went into the decision making matrix. Some of these included air quality, proximity to potential hazards such as airports, terrorist targets, large manufacturing operations, climate, as well as man-made risks such as airports, roadways, railways, and even underground transmission lines for gas and electric. Dan revealed that there is scientific data behind the size of an underground pipe, the pressure contained within, and what the potential blast radius would be should a disaster occur; and that this should be taken into consideration during the site selection process. As far as being able to mitigate potential shortfalls on any of these location factors, Dan noted that his strategy was somewhat flexible for a smaller center, but that "these factors would remove a location from consideration of a larger center without further discussion." He also felt that a smart zoning and planning policy could put a community in a better position to recruit a center to an area.



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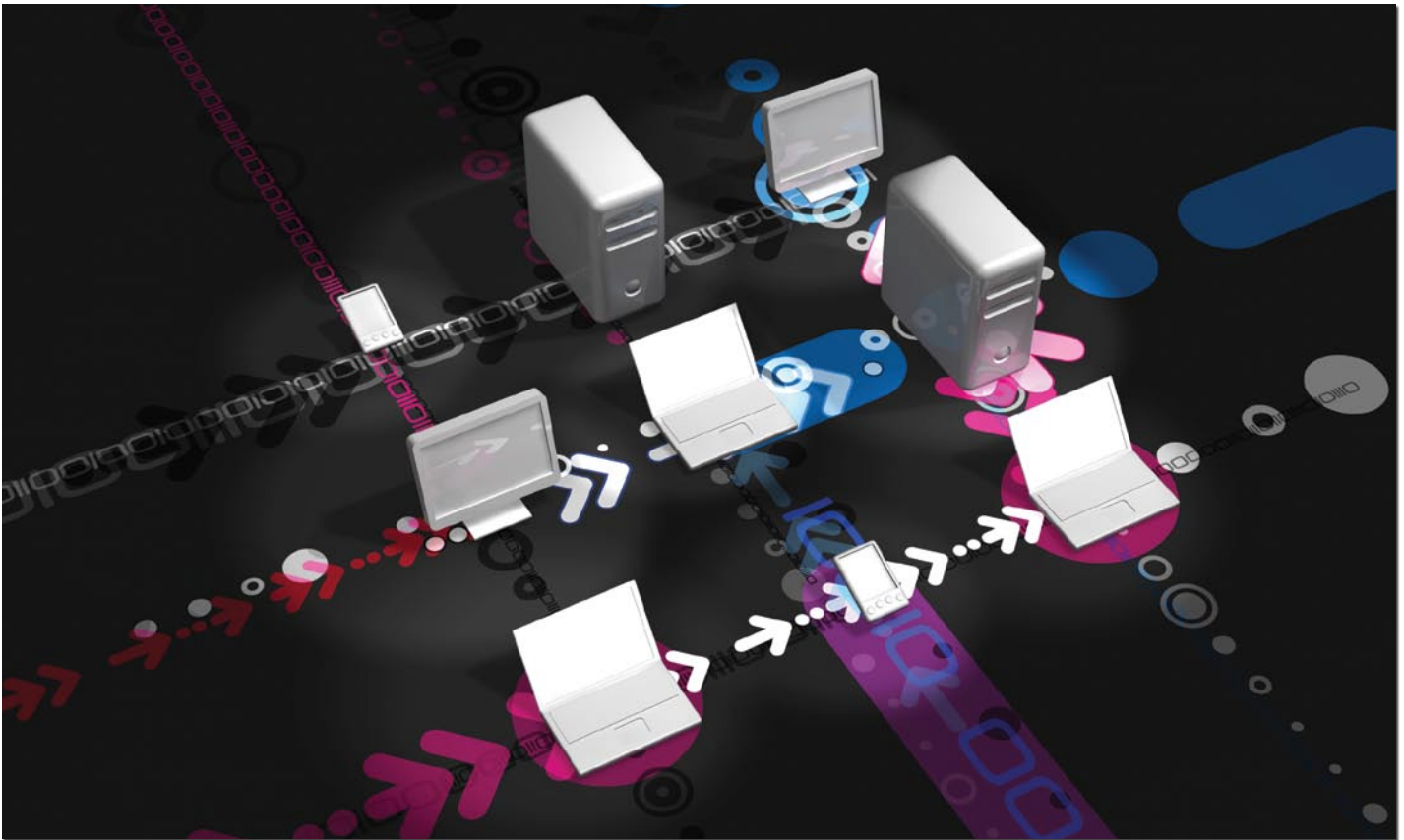


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David Kleppinger, Executive Director  
Allegheny Highlands Economic Development Corporation (AHEDC)  
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Voice: 540.862.0936 • [dkleppinger@allhighlands.org](mailto:dkleppinger@allhighlands.org)

## Workforce and Support

While the workforce and support factors are much more difficult to quantify and compare between communities, they are extremely important to the overall process. As noted above, even large scale data center projects lack the large employment figures that are typically found with facilities of this size, however that is not to say that labor is not critical. Data centers customarily employ some highly-specialized individuals, and a company must have certainty that the right type of skill sets can be found in the community under consideration. Additionally, it is fairly typical for many third party vendors and contractors to perform work on a routine basis at data centers. The location must also have easy access to significant third party providers (such as IBM and Cisco personnel) to support aspects of the equipment necessary for operational efficiency. Finally, it is advantageous to have a major airport. Some of our clients have had issues at critical operational facilities in



which replacement parts could not be delivered in a timely manner, as there was not a major airport nearby. A company must look to strike the proper balance between these criteria. Sometimes, for example, the ideal environmental location would be in a rural area, whereas the ideal location for employment might not.

Once a shortlist is reached, based upon the above critical factors, the field is further narrowed by the remaining factors: Infrastructure and Cost Considerations. While these categories have a major impact on the overall site selection process, they are secondary because they typically can be controlled or mitigated and, may not play a critical role in the initial round of cuts.

#### **Infrastructure**

The location of a data center relies heavily upon the site's ability to provide critical infrastructure. Communities must be prepared for the heavy demand a center will have on both power and water consumption. Since data centers rely on running computer equipment that needs to be constantly cooled to maintain proper operational efficiency, these centers sometimes become the largest user of utilities in the community. Because of the

center's reliance on these critical utilities, former location executive, Dan Ward also points out that corporate users are looking for "multiple [providers] of services such as water, power and fiber," to ensure the continuity of the facility in case of an outage, as well as to provide competitive rates.

#### **Cost Consideration**

Companies must consider the cost of operations when evaluating potential locations, as they are responsible for producing the best results possible for management and shareholders. While traditional site selection searches focus sharply on labor cost, logistics, and income taxes, the cost factors will vary somewhat with a data center project. With little employment, minimal logistical concerns, and typically minor income tax exposure (these centers are usually not profit centers), the data center's primary cost concerns are the cost of utilities, sales taxes, and property taxes. With such a large up-front investment in real and personal property, and the ongoing capital spend associated with replacing equipment and software, the tax costs can skyrocket at this type of facility if a proper site selection process is not followed

during the decision making phase. On a positive note, government agencies love these types of projects because of the positive tax impacts created as a result of a successful location.

#### **Incentives**

Incentives for data centers can play a critical role in mitigating some of the operational costs associated with the facility. Since local incentive packages typically focus on local revenue generating items such as sales and property taxes, and these projects generally have an increase in the new expected tax base, there is a solid amount of "clay" a local government can work with when crafting an incentive package. On the corporate side, we always advise a client that incentives are short-term subsidies, and locations for data centers should be analyzed both with and without incentives, so that a company can get a sense of what its cost of operations will look like once the negotiated incentive periods are over. It is important to distinguish between a true negotiated incentive -- one that reduces a particular tax -- versus a location that doesn't tax in the first place. For example, "Location A" may offer temporary sales tax abatements, while "Location B"

may not have sales tax levied on software items in the first place.

Finally, there are a number of items that are impacting the overall site selection process for data centers; however, we would like to focus on two of the items that often have the most dramatic effect on the size and location of a data center facility. These items are the outsourcing trend and the push for the “greening” of corporate America, both through renewable sources of energy and sustainable building design.

### Outsourcing

Outsourcing of IT functions and data center operations impact the site selection process both from a labor and a geography standpoint. There is also an evolution of IT strategy, whereby smaller operations are increasingly being outsourced to third party providers who in turn build major centers to generate economies of scale. As more companies look to outsource IT functions to gain efficiencies and economies of scale, and as the use of “cloud computing” becomes more prevalent, the types of data centers being constructed are actually becoming larger and



more critical due to the fact that multiple companies are being supported out of one location. This requires that the third party vendor make wise location decisions as aggregate client demands force them to build a larger center to take advantage of the efficiencies gained through economies of scale. Additionally, third party vendors must also rely on ensuring that the center runs efficiently and effectively.

We expect the trend of building larger and more technologically complex facilities to continue for the near future.

### The Greening of Data Centers


The corporate philosophy to promote green development and sustainable design is also having a major impact on site selection analysis in certain instances today, and will increase in importance with time. Typically when we think of green design, we think of renewable energy, but this may not be the main focus of “greening” the data center operation. Daniel Ward pointed out that, “in today’s environment it is more corporate image and not return on investment (ROI) that drives the decision to use renewable energy sources in a data center.” Dan noted that it is far more cost effective today for a data center to “cut consumption” rather than invest in a renewable energy source. The main reason cited is the center’s effectiveness -- the ability to potentially reduce up-front capital costs by finding ways to build a smaller, more efficient facility. This could involve some creativity in building design where outside air is used to cool the data center space rather than using traditional HVAC systems. The use of climate in the site selection analysis could have an increasing impact.

This is one example of how the data center continues to evolve along with the economic development agency’s approach including the incentives that are used to target these “mega” projects. With the evolution of the data center, one thing hasn’t changed; with the successful location of one of these centers, everyone is a winner. 🏠

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