Data Centers Face a Growing Number of External Factors That Can Lead to Inflated Property Taxes

Jeff Tuthill and Michael Allen
Introduction

The valuation of data centers for real and personal property tax purposes can be a special challenge for local assessors because of their unfamiliarity with this unique property type. They often pose special valuation problems for assessment purposes. Failure to fully appreciate and consider all negative impacts on value from external factors often leads to flawed valuations and inflated property taxes.

Data centers have historically been incorrectly assessed for real property taxation.

Did You Know…

The average number of data centers will increase to 10.2 per organization through 2021. Moreover, new data center construction is expected to grow more than five times in that same time.

Data Centers Are a Unique Type of Commercial Real Estate

All data centers are essentially buildings that provide space, power, and cooling for network infrastructure. They centralize a business’s information technology (IT) operations or equipment, as well as store, share, and manage data. Businesses depend on the reliability of a data center to ensure that their daily IT operations are always functioning. As a result, security and reliability are often a data center’s top priority.

Although many taxing authorities consider all data centers to be basically the same, there are many different types of facilities and service models. Understanding differences in their use and business models helps avoid valuation miscalculations. A one-size-fits-all approach can create numerous valuation errors.

The following list helps clarify the main differences in data centers:

- **In-House Data Centers (“Enterprise” Centers)** – Many enterprises—especially larger organizations and those in the technology industry—design, build, and operate their own facilities. The capabilities of an in-house facility will depend on the investment the firm is willing and able to make.

- **Colocation Centers** – An example of a multitenant data center/colocation space can be sold or rented to enterprises by the rack, cabinet, or cage. Companies of all types and sizes, from small- and medium-sized businesses to Fortune 500 firms, benefit from colocation services. Customers still maintain control over their hardware but outsource facility and internal systems maintenance to the provider. The tenant’s leased space can easily expand or contract as needed.

- **Wholesale Data Centers** – These providers sell or rent data center space in larger capacities than a colocation model and typically have fewer customers. They may build-to-suit a space for a single tenant. The concept is like leasing a warehouse or office space in which the landlord provides facility maintenance to the tenant.

- **Dedicated Hosting** – The provider operates and/or rents server capacity to single customers. In other words, servers are not shared among multiple customers. No additional services are provided, and the customer maintains full control over the server beyond maintenance. However, some providers can add amenity services, such as remote hands to reboot servers and upgrade software.
Managed Hosting – In a managed hosting facility, the provider operates servers and storage for its customers, as well as provides additional administrative and engineering services. Although the scope of services can be diverse and extensive among the various providers, some common examples include database administration, operating system administration, managed security services, managed storage, application management services, disaster recovery, systems monitoring, and remote management. The hardware may be owned by the customer or the provider.

Shared Hosting – In this example, customers share server capacity. Well-known website hosting companies such as GoDaddy and Network Solutions represent examples of providers operating shared hosting facilities. To deploy services, these providers create a user interface overlaying the physical server. This interface provides multitenant applications to help customers configure their services.

These are a few of the most popular data center facilities operating today. However, numerous service models exist, and the line between different types of operations can become blurred.

Each type of data center is configured, equipped, and operated differently depending upon its intended use. However, there is a common denominator that always presents and reflects the real estate base upon which everything else is customized—the Data Center Powered Shell.
The Powered Shell Is the Key to Accurate Real Property Valuation

A data center’s ad valorem real property taxation is usually best determined by valuing only its Powered Shell.

A Powered Shell data center is a facility with all exterior construction fully completed, with available power and connectivity, but with the interior left as raw space to be finished by the customer or to meet a potential customer’s specifications.

By valuing only the Powered Shell of the data center, the most common valuation errors caused by commingling the value of any personal property and/or business enterprise value (intangibles) with the real estate can be avoided. The Powered Shell alone is as close as you can typically get to arriving at an estimate of the value of the real estate alone associated with a data center, whether fully complete, occupied, and/or operating at its full potential.

Real Property Taxation of Data Centers

An operating, mature, and fully leased/operating data center commingles several different types of values and assets. These include real property, tangible personal property, and intangible personal property. When combined, the value of all those assets in the aggregate represents the value that a typical investor will pay for the entire functioning enterprise [i.e., Business Enterprise Value (BEV)].

However, real property taxes are only paid on the segregated value of the real estate alone.

It is not always easy to extract only the real estate component of value from the entire BEV. Failure to do so can often lead to double taxation between real and personal property or an unsupported over/under allocation of BEV to the real estate. This can lead owners, tenants, and users to be overcharged because most real property tax is passed on in one way or another.
Cost Approach: The Easiest Way to Value the Powered Shell

Of the three established approaches to valuing commercial real estate—Income, Sales, and Cost—the Cost Approach can easily be applied to the valuation of Powered Shells and excludes any portion of the BEV and personal property.

Although the Cost Approach is a relatively simple valuation method to arrive at the real estate only value of the data center, in some cases, an Income Approach can be an effective tool in valuing a Powered Shell if the appropriate assumptions can be identified. Typically, this would be done on a market basis rather than using actual income and expense from leases in place to minimize the amount of BEV captured in the capitalized income stream. However, because those are market-extracted assumptions, they will never be entirely free from some return on and of the non-realty assets being provided.

Most often, the Cost Approach is easier to use because its assumptions are more readily available, particularly if the subject facility is relatively new.

Most often, the Cost Approach is easier to use because its assumptions are more readily available, particularly if the subject facility is relatively new.

Under the Cost Approach, the value of the underlying land and site improvements is first estimated separately based on recent sales of similar land and/or using cost estimation guides. Then the replacement cost new of the Powered Shell is estimated based on actual construction costs or construction guides such as Marshall & Swift. An appropriate adjustment for depreciation is applied to get to the depreciated value of the improvements, which represents present value estimate of the property as a Powered Shell only.

There are different types of depreciation (i.e., Functional, Physical, Economic/External) that can be applied to a data center. The depreciated building value is added to previously established land and site values, plus an estimated entrepreneurial profit, to get to the final Cost Approach value conclusion. There should be little, if any, BEV or personal property contained in that estimate.

Accordingly, this Cost Approach value estimate should be used to establish real property taxes for the entire data center if all the realty improvements to the Powered Shell are fully captured in that estimate (e.g., back-up generators, utility connections, etc.). This value estimate should be used reliably and consistently by assessors in producing their proposed real property assessed value of the data center. It is worth noting that in the event there is excess land that has yet to be developed, upon which the data center sits, then to the extent that this land can be independently developed from the existing data center, it also needs to be valued using comparable sales. Any such excess land value needs to be added to the Cost Approach by the assessor.
Estimating Obsolescence Difficulties in Data Centers

A considerable amount of care needs to be taken in applying the various depreciation adjustments. The older the building, the harder this is to do accurately. Some of the most pertinent types of depreciation common in data centers are physical, functional, and external/economic obsolescence.

**Physical**

Physical obsolescence is generally defined as any loss in value to a property related to accrued wear and tear (combination of use, effects of aging process, physical decay, structural defects, and action of the elements).

Key indicators to consider are:
- Electrical Supply to the Facility (i.e., amount of kilowatts, max capacity)
- Condition of Exterior Walls
- Condition of Interior
- Mechanical Equipment Condition
- Roof Condition

Such obsolescence can be curable or incurable. In data centers, physical and functional obsolescence can overlap because each may be the result of diminished market demand due to the amount of kilowattage delivered to the property and/or its current configuration to leverage technology advancements.

**Functional**

What is functional obsolescence?

“Functional obsolescence is the impairment of functional capacity of a property according to market tastes and standards.” – Definition from The Dictionary of Real Estate Appraisal, Fifth Edition (Appraisal Institute).

In other words, it includes any loss in value to the property because of something occurring within the subject property’s boundary:
- **Improved too much**: Over-improvement for the demand of the market
- **Improved too little**: Under-improvement for the demand of the market

If you are uncertain of that answer, that is a clue there is functional obsolescence at the property. The test should always be to ask the question, “What is the perceived market reaction to the subject property in either utility or desirability as currently constructed, configured, and equipped?”
When you are dealing with functional obsolescence, one critical question you must find out is whether it is curable or incurable. The rule of thumb is whether the cost to fix the problem can be justified by the potential increase of property value. In other words, is the juice worth the squeeze? If not, you need to make this depreciation adjustment.

For data centers, examples of functional obsolescence can include:

- The impact of users/clients migrating their data to the Cloud
- Their appetite for larger facilities
- The consolidation of their data in fewer facilities
- Privacy concerns and legislative protection that can make going offshore desirable

**External/Economic**

The definition of external obsolescence is often stated as any defect, always incurable, caused by negative influences outside a site, and it is incurable by the owner, landlord, or tenant. Otherwise stated, it is any loss of value from a source outside the property itself or caused by any external factors that affect potential economic returns, thus having a direct impact on the market value of a property.

The three basic categories of external obsolescence are:

1. Economic Influence,
2. Environmental Influence, and
3. Locational Influence.

Two good examples of this type of depreciation that is almost never considered by the assessor in the assessment process or in determining data center taxation are the growing impact of the Cloud and certain legal decisions with unintended consequences. A very good recent example is how the “patent troll” court jurisdiction issue is affecting portions of the North Texas data center market.
Impact of the Cloud on Applicable Depreciation for Data Centers

Data centers have changed considerably since they first became common in the late 1990s. Similarly, the servers that operate within a data center are smaller and require much less cooling. This has allowed data center design to become more uniform and compact. Accordingly, there is a significant difference between the early 1990’s designed data centers and those that are being constructed today. In particular, today’s data centers are much larger and uniform, and often there is excess land purchased contiguous to the data center to accommodate future expansion.

In the past, enterprise-level data centers were constructed to meet specific corporate functions and capabilities. The requirements of the Cloud have driven a new uniformity in design, which makes facility planning and configuration an easier task.

Typically, older-generation data centers suffer from significant and multiple obsolescence because of over-improvement and/or out-of-date design criteria. A review of recent sales of older data centers, which were configured for the requirements of the 1990s, shows that, in many cases, their sales prices represented less than 20% of their original cost. However, until they were sold, assessors routinely refused to accept the impact of the accrued depreciation on their value for property tax purposes.

Furthermore, there has been a negative impact to the value of tangible personal property located within the data center. In particular, the design and utility of server equipment has evolved so dramatically and quickly, because of the needs of the Cloud, that older equipment has little or no resale value. This in part is a result of the ever-increasing processing power of today’s equipment. All of these factors can combine to cause older, larger data centers to have large blocks of unused power capacity and/or inefficient deployment of equipment within the data center. This affects value and should be reflected in the property tax assessment.

In summary, the data center industry is evolving to meet the demands of the Cloud and that will likely have a significant impact on the value of all data centers, particularly those that are older and smaller.
Impact of “Patent Troll” Litigation

The impact of external/economic obsolescence can be caused by all types of obscure events. For instance, there is a growing national concern that forum shopping plaintiffs looking for favorable venues to support patent infringement cases have had an unexpected and negative impact on certain data centers.

Currently, its impact is being felt primarily in certain parts of Texas, but the phenomenon is likely to spread to other areas of the country where local courts are perceived to favor plaintiffs who are forum shopping in patent infringement cases. The impact is to cause individual businesses or industries to move out of that location and eventually out of the data centers previously occupied and used there. The plaintiff’s argument is that if the defendant is operating or leasing space in a data center within that jurisdiction, there is sufficient nexus for the plaintiff to sue for patent infringement.

A good example is Apple’s recent and surprising decision to close all its stores and operations in Plano, Texas in favor of opening a store in nearby Dallas in The Galleria Mall. Apple did so for fear of being otherwise deemed to be doing business in Collin County and giving patent litigation jurisdiction to the Courts of the Eastern District of Texas. This move has worried the data center industry with major investments in Texas cities such as Richardson, Plano, and Allen.

The background to Apple’s decision is that on May 22, 2017, the U.S. Supreme Court unanimously found in favor of TC Heartland, an Indiana-based company which had argued that Kraft Foods should not have been allowed to file suit in Delaware, which is another hotspot for patent litigation, because of lack of nexus with that state. The court agreed.1

The ruling keeps patent infringement suits confined to districts where the defendant is incorporated or has an already established place of business. Based on this decision, Apple apparently hopes to avoid future patent infringement lawsuits by closing its stores in East Texas.

This trend could have a negative impact on demand for collocation data center space in Collin County, Texas, while concurrently driving increased demand for the value of data centers in places such as the lucrative Dallas County data center market. Simply put, legal counsel for potential data center users is now regularly instructing management and real estate brokers to avoid leasing or operating in any data centers located in the Eastern District Court of Texas if patent conflicts are likely.

---

1 TC Heartland LLC v. Kraft Foods Group brands LLC, Docket No. 16-341, May 15, 2017
Ironically, many of the cities located in that district have long been known as tech hubs, housing operations for stalwarts such as AT&T, Ericsson, and Cisco Systems. The “patent troll” issue is acting as a sort of double whammy to landlords in the data center space in Collin County, Texas because of the large amount of new data center capacity that has come online in the last few years.

As if the “patent troll” issue wasn’t enough of a blow, Datacenter Hawk™ reports in the first quarter of 2019 that data centers located in the Dallas/Fort Worth market have had to be more aggressively priced because of the availability of larger amounts of commissioned power that is pushing rates lower.

It is not all bad news for companies facing these economic headwinds. While it is an undoubtedly unpleasant time to be leasing kilowatts and megawatts in Collin County, there may be a silver lining in the opportunity to reduce their real property taxes.

Any time external factors such as the “patent troll” issue affect the ability to lease space and/or diminish demand (i.e., when economic/external obsolescence is at work), it should support a good argument for a significant reduction in current and future real and personal property tax assessments.

For instance, the owner of a new, speculative data center in such an affected location can argue in a property tax challenge not only for much lower market rents but also for an expanded lease-up adjustment because of reduced market demand, as potential tenants eliminate any location subject to Texas’s Eastern District Court jurisdiction.

Traditionally, the valuation issues surrounding data centers have been regularly misunderstood by assessors. Assessors often regard them as merely “flex” or warehouse industrial buildings. Consequently, many jurisdictions still have their data center assessments pegged at well below the original cost to construct the Powered Shell. Although advantageous to the property owner, this valuation is also flawed.
Conclusion

Owners, operators, and tenants in data centers throughout the United States need to adopt a proactive approach to challenge their proposed real property assessments. Such a proactive approach should consider each of the following:

- Value Powered Shell only to avoid including BEV and personal property in the real estate only valuation
- Use the Cost Approach to value the Powered Shell to get the true real estate value of a data center
- Fully adjust for functional and physical obsolescence, which can sometimes be cured, but rarely so in data centers
- Fully adjust for all types of incurable external obsolescence, including the more obscure types like the impact of patent trolls, technological advances, and/or changes to market forces, including demand

Failure to value anything other than the fully depreciated value of a data center’s Powered Shell will lead to inflated valuations and the property taxes based thereon.
About Ryan

Ryan, an award-winning global tax services and software provider, is the largest Firm in the world dedicated exclusively to business taxes. With global headquarters in Dallas, Texas, the Firm provides an integrated suite of federal, state, local, and international tax services on a multijurisdictional basis, including tax recovery, consulting, advocacy, compliance, and technology services. Ryan is a seven-time recipient of the International Service Excellence Award from the Customer Service Institute of America (CSIA) for its commitment to world-class client service. Empowered by the dynamic myRyan work environment, which is widely recognized as the most innovative in the tax services industry, Ryan’s multidisciplinary team of more than 2,500 professionals and associates serves over 14,000 clients in more than 50 countries, including many of the world’s most prominent Global 5000 companies. More information about Ryan can be found at ryan.com.