No Building Left Behind Series: Industrial Warehouse

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Industrial real estate has quickly become one of the hottest segments in commercial real estate. Driven by the rise of e-commerce, industrial assets, particularly distribution centers, are in more demand than ever before. In the past five years, warehouse construction spending increased 29% annually, as opposed to the previous 19 years, when it rose 1% annually.

With ecommerce growing by 15% every year in the US, today's investors are willing to pay a premium for both class-A and class-B industrial assets because they are getting higher returns than other sectors. In 2018, annual ROI for industrial assets averaged 14%, doubling the ROI for office (7%) and multifamily properties (6%). Despite the tremendous rate of growth, online sales only make up 10% of all retail, suggesting that there's more room to run.

According to Cushman & Wakefield, high industrial valuations are more the result of rent growth than cap rate compression. However, rent growth slowed in 2018 and is expected to dip in both 2019 and 2020. With historically low cap rates, plenty of new supply, and stabilizing rent growth, industrial landlords are looking to technology to stand out in an increasingly competitive market.

For a long time, industrial landlords could get away with simply providing four walls and a roof. Times have changed however, and logistics centers are becoming some of the most technologically sophisticated properties on the planet. And while the achievements of online retailers like Amazon have been impressive, there is still room for improvement. For example, JD.com, a Chinese online retailer makes 90% of its deliveries within 24 hours, with 57% arriving within 12 hours. As competition between retailers heats up, landlord capabilities are increasingly going to be considered when evaluating spaces.

The fierce competition is putting pressure on industrial owners to deliver more sophisticated buildings and services to tenants. In addition, the tightening marketplace will require leveraging more data-driven decision making in acquisitions, dispositions, tenant expansions, and capital investments.

This white paper will focus on the technologies that real estate companies can deploy to maximize the performance of their industrial properties, as well as how those solutions can be integrated amongst themselves and across a diversified portfolio of assets.

Operational Improvements

The "smart building" revolution is gradually picking up steam across the other major food groups of commercial real estate, such as multifamily and office. However, because of the prevalence of triple net leases in logistics centers, many industrial landlords have figured that there is no reason to undertake such investments.

This sentiment is likely the result of misunderstanding of the value proposition of smart building technologies. Obviously, there is no reason for a landlord to make an investment that tenants would reap the benefits of. And so, when smart building technologies are framed purely in terms of energy savings, there are missed opportunities to leverage data to drive mutually beneficial operational improvements.

Most notably, the largest risk for both tenants and landlords with a triple net lease is related to maintenance and repairs, an aspect of building operations that smart building technologies are equally in position to enhance as energy management.

For example, landlords should monitor their assets to ensure that tenants are following the terms of the lease regarding required maintenance. This is currently being

performed through manual inspections, which are generally slow, expensive, and present opportunities for human error. Regardless of how experienced the property assessor is, there are issues that can occur within building systems, such as short cycling motors, that cannot be detected by human senses.

With limited transparency into whether maintenance terms are being upheld, there is a risk that tenants cuts corners on maintenance to save costs. Oftentimes, there are small problems that tenants decide they can simply live with until the lease agreement is over, thus passing the deferred maintenance costs onto the landlord. At that point, maintenance may have been put off so long that the cost of repair is 5–15 times higher than when the problem first arose. Even if the landlord requires using a pre-approved list of maintenance vendors, there is still no way to know when or how much work has been performed.

Smart building technology, driven by the data from equipment-level sensors, can verify and that maintenance has been performed and quantify how many hours were spent on each individual piece of equipment. This can be rolled up into standardized metrics such as mean time to repair (MTTR) and mean time between failure (MTBF) to allow landlords to triage their tenant roll and focus on those that are not living up to the terms stipulated in the lease.

Not only is this faster, less expensive, and more accurate than in-person assessments, this verification can be provided to tenants as a service if they are subcontracting maintenance to third party vendors. As rent growth stabilizes, industrial landlords should ensure that their expenses also stabilize in order to sustain NOI. If a valuable service can be pitched to tenants at the same time, it becomes a win-win situation.

Equipment Retrofits as a Service

The "as a service" business model has proliferated in many industries. The most common approaches for buildings have been Lighting as a Service (LaaS) and solar power purchase agreements (PPAs). Under these programs, the landlord (or service provider) pays for the upgrade at no cost to the tenant and then recoups their investment over time with a share of the savings generated. It's no coincidence that lighting and solar arrays have been the focus; the nature of these systems makes their operating costs very predictable and accurate models can be made based entirely off of basic information and assumptions.

It's not hard to see why this model would be successful; the pitch to tenants is that they do not have to make any upfront investment and get a lower utility bill. Of course, if they paid

Maintenance Verification

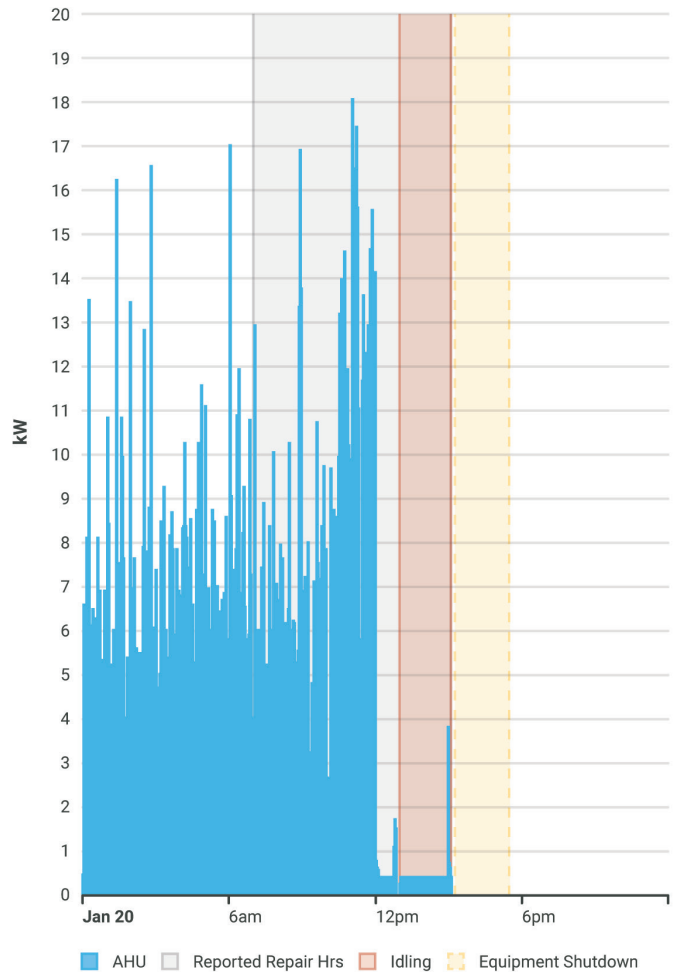AHU · Reported Repair Hrs · Idling · Equipment Shutdown

Fig 1. Operational Improvements

for the retrofit or upgrade themselves, they would see much larger reductions to their operating expenses because they would not have to share the savings, but many tenants do not have the cash on hand or incentive to upgrade their space.

Now, unlocked by technology, this model can be applied to every equipment type in a building, such as the various components of the HVAC system. This is because the same sensor data used for maintenance verification can "dollarize" the cost of running any piece of equipment. With data streaming to the cloud, software can visualize the empirical savings for both tenants and landlords, as well as automate necessary services such as measurement and verification.

While the pitch to tenants is relatively straightforward, landlords need to take a bigger picture view to see the true value of the Retrofit as a Service model.

The first benefit for landlords is that they are adding an

Retrofit as a Service Model

Prior Utility Bill 100%	Net Tenant Savings — 5%	Long-Term Annual Savings 50%
	Service Payment — 45%	
	New Utility Bill — 50%	

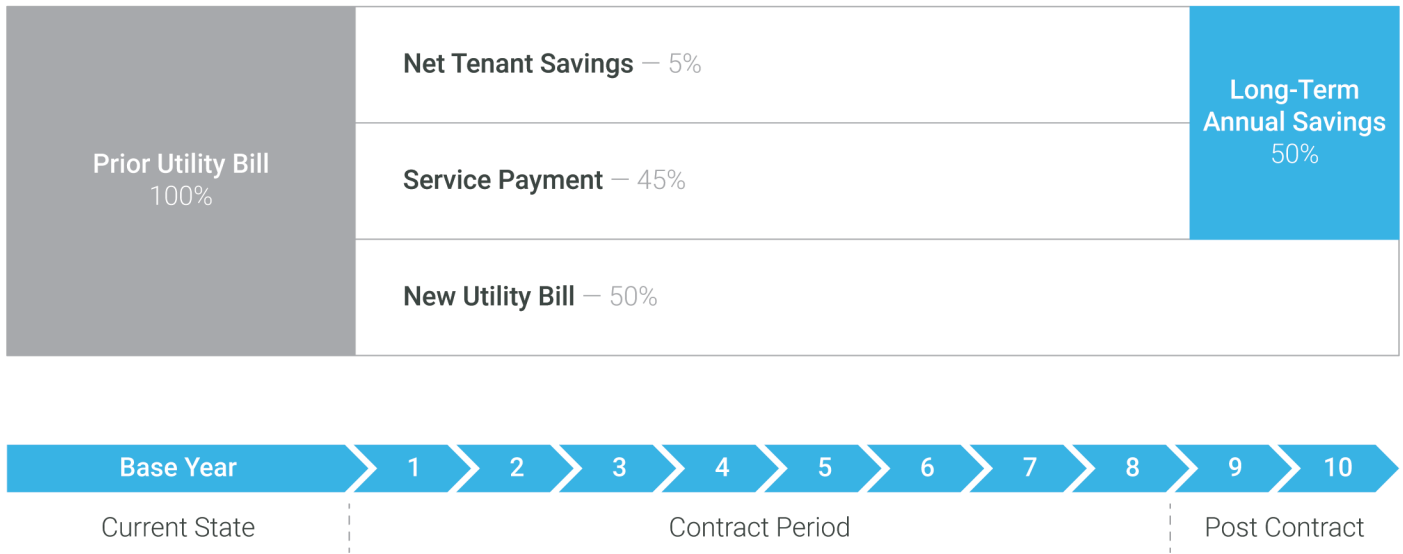| Base Year	1	2	3	4	5	6	7	8	9	10
Current State				Contract Period					Post Contract	

Fig 2. Equipment Retrofit as a Service

additional, non-rent revenue stream to their property. Assuming there is enough cash on hand to invest in an equipment upgrade, the tenant will begin paying a service contract to the owner (usually around 80% of savings). For landlords that have had to acquire more space or push rents up to drive additional revenue, this can be a welcome source of diversification.

The second benefit is that tenants are helping to financing high-value upgrades that will pay dividends long into the future. Instead of waiting until the tenant moves out, the incentives are aligned to upgrade the property as soon as possible so that tenants maximize the benefits. Retrofitting equipment not only lowers operating costs, it creates a higher quality space to encourage re-leasing the property or attracting new tenants. In a tight market with relatively standardized spaces, better lighting and improved air quality can prove to be a competitive advantage.

Finally, there is the opportunity for tenant engagement. Keeping tenants happy and an asset occupied is perhaps the most important activity landlords can perform. If done well, with a technology-first approach, a Retrofit as a Service program can create a valuable touchpoint that helps move the relationship from purely tenant-landlord towards a managed service.

Space Utilization

Speaking of a managed service, sophisticated landlords are using the massive amounts of data generated as a

byproduct of the solutions mentioned above to gain valuable insights into their tenant's needs. One of the most striking examples of this is the concept of using sensor data to understand space utilization.

For example, machine learning can detect if a certain tenant is underutilizing their loading dock doors compared to previous levels. This may indicate to a landlord that the tenant's business is not going so well, and that there will be a higher probability that they will have to replace the tenant when the lease term expires. On the other hand, if the data indicates that the tenant is ramping up production, the landlord could proactively offer another, larger space nearby or an expansion of the current space.

This level of predictability about portfolio needs will be a clear competitive advantage as tenants seek out landlords that understand and proactively work to meet their needs. With rents relatively standardized across the industry, standing out with data-driven insights could prove to be a major differentiator.

Shaking Out Risk

As much as industrial landlords need to improve the properties and services they offer to tenants, sometimes it will make sense to make an exit via disposition. However, as every commercial broker knows, the projections related to operating expenses and capital requirements in the pro forma are largely guesses.

These projections are usually a combination of historical data, property condition assessments, and basic rules of thumb, all of which are prone to large margins of error. Historical data is not necessarily an indicator of future performance, especially as it pertains to aging systems. There are serious equipment issues that cannot be detected by a property condition assessment, as mentioned before related to lease term verification. And finally, rules of thumb are only useful as an alternative to nothing.

On the other hand, if there is sensor data that has been "dollarizing" every piece of equipment in a building for several years, sellers could use that data to provide a much more accurate picture of expenses going forward. Not only that, but if the data is fed into a central platform outside of the portfolio, the costs of running systems and expected useful life of equipment can continuously be benchmarked against similar systems across the industry.

Instead of pricing an arbitrary amount of risk into the sale because both sides know that operating expense projections are complete guesses, a seller leveraging this data can provide a much more accurate pro forma. This could artificially compress the cap rate because they are able to empirically shake out risk in a way that other sellers wouldn't be able to.

Reducing risk is valuable for both parties in the deal. Not only can sellers be more aggressive on price, a buyer could get a better borrowing rate from institutional lenders that want to minimize risk as much as possible.

Conclusion

Despite the recent success of the industrial sector overall, future success will not be evenly distributed. Tenants will require more sophistication than ever before, and the decisions made about capital investments, acquisitions, and dispositions will have significant impacts on the success of portfolios.

This sophistication will be impossible without granular data about what is happening in the buildings that make up the portfolio. However, to justify the cost to deploy the sensors necessary, industrial landlords must identify business solutions that will generate a return on investment in the short term. These business needs could be automatically verifying that maintenance is being performed as stipulated in lease agreements or providing a Retrofit as a Service program to tenants.

After a solution has been identified that surpasses the internal rate of return hurdle for the organization, the data that will become the foundation for tremendous long-term value will be created as a byproduct. With this foundation of data, industrial landlords will be able to predict tenant needs and shake out the risk during asset transactions.

With the rise of e-commerce, industrial assets are now linked closely to the health of the economy overall. The industrial landlords that recognize the opportunity and begin to act today will reap the rewards for decades to come.