

CAPTURING VALUE IN YOUR PROJECT'S ELECTRICAL SYSTEMS

DEFINE WANTS VS. NEEDS WITHIN THE VALUE PROPOSITION

At The Weitz Company, we believe in looking at all the ways a client and/or operator can save time and money. Often, both go hand-in-hand. In order to understand if you're saving dollars on the hour or dollars on the investment, it's always wise to define wants versus needs and, ultimately, create a value proposition for the project. In order to accomplish a quick but helpful analysis, it only takes addressing a few critical items and questions. In the case of electrical systems, here are a few notable steps to capturing value.

KNOWING THE CODES

Being educated on today's code requirements can save you money. Increased construction costs are not just from rising labor and material costs. Codes are driving up costs, too. Being informed of the various building codes (within electrical system as well as other areas) will ensure you are ahead of the curve.

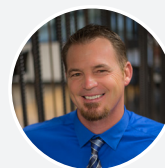
Knowing some of the basic requirements of the National Electrical Code, the International Energy Conservation Code and the International Building Code will give owners, investors, developers and operators an upper hand in the design and building process. There are dimming requirements that depend upon location and switchgear changes that contribute to increased costs over time. Knowing some of these changes and requirements will make you more prepared as your building becomes fully operational.

ASKING THE RIGHT QUESTIONS

First, you have to understand the costs associated with an electrical number. Ask your team of engineers and architects for a breakdown showing all the components that exist within the

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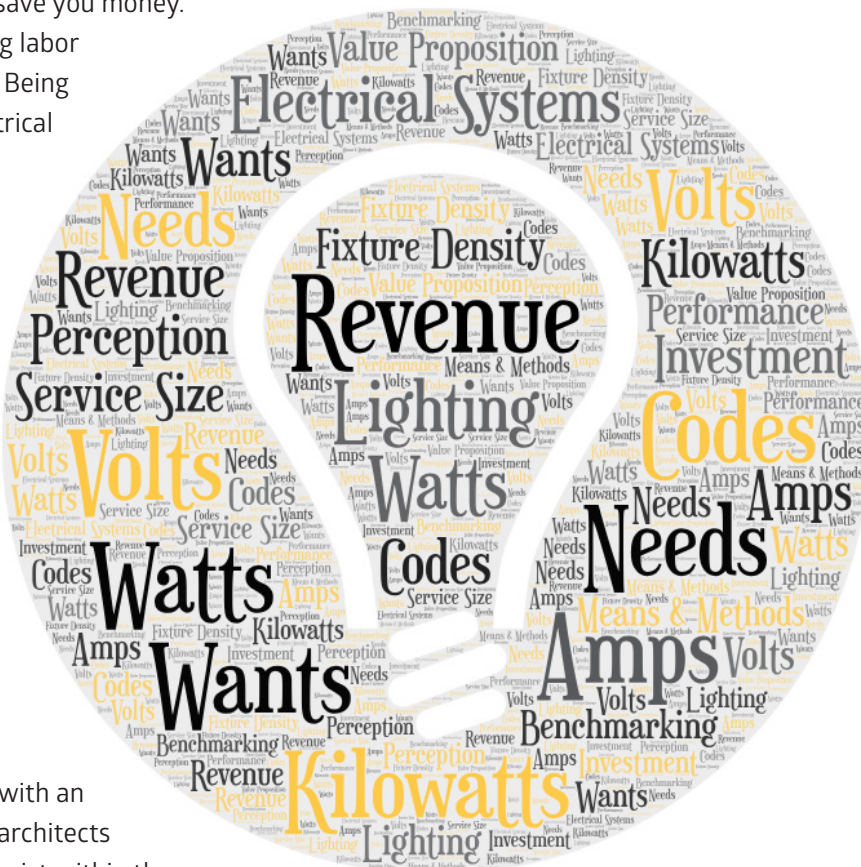
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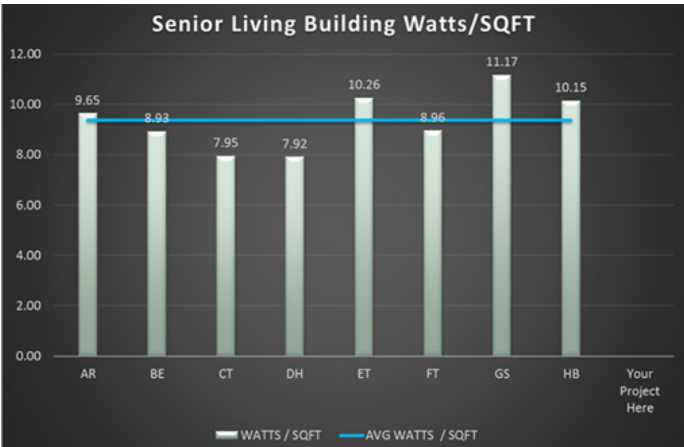


number. Then, define measurable benchmarks. Knowing what wattage is required versus what is specified within your breakdown will enable you to ensure you meet the requirements. For example, lighting, special systems and fixture density are components you can benchmark.

Second, you must decide whether a component or code that you have to follow has any associated cost recovery or if it is a part of your net operating income. For example, will you use aluminum wire instead of copper wire because it costs less up front? Since large aluminum properties are made much better today, the low hanging fruit of saving this upfront cost is an easy decision to reduce initial investment. This is because there is no performance or perception that suggests it is not a good cost reduction. It's an engineering cost reduction that is a good design option without negative affect to your system.

SERVICE SIZE

Another benchmark to consider is your service size selection. Do two watts of power really matter? In a 400,000-square-foot facility, that's a savings of roughly 2,200 amps at 208 volts of material and equipment installation at an upfront cost that you could save. Thinking about ways to optimize your service size and identifying the number of panels and feeders sizes you actually require can lead you to decrease your upfront costs. The demand of the equipment and cost at the meter will likely be 30-40 percent less than your calculated service size. Therefore, making every effort to reduce upfront service size and feeders is important while still remaining cognizant of future requirements. *(The below chart represents the service size of various Weitz senior living projects)*

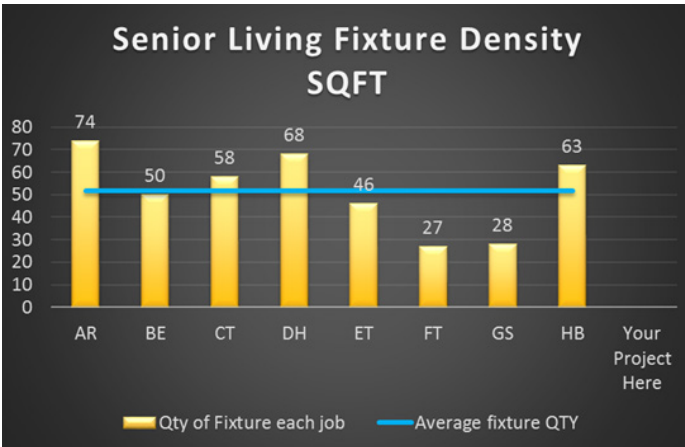


"JUST THINK. SAVING ONE-TENTH OF A WATT OF POWER (OR 40 KILOWATTS TO A 400,000-SQUARE-FOOT FACILITY) AT \$0.09 PER KILOWATT PER HOUR IS ROUGHLY \$3.60 DOLLARS SAVED EVERY HOUR AT 100 PERCENT USAGE. NOW ADD THAT UP."

FIXTURE DENSITY

Take a moment to review fixture density. How can this affect your wallet now or later? Think of an independent living facility that has standard hallway lighting. In main corridors, lighting is typically designed in a more institutional style, with 2-foot by 4-foot fixtures every 12 feet. This can lead to a more sterile, hospital like environment that is more cost effective to build out. To create a warmer, more residential feeling, you may specify wall sconces, pendant fixtures or cove lighting, ending up with more fixtures per square foot and higher costs. Next thing you know, you aren't achieving any lighting cost savings.

Lower density (the higher on the bar chart below) means less fixture cost and, potentially, less design intent to meet code. Higher density (the lower on the bar chart below) costs you a great deal more for the same foot candle and code wattage requirement. For this reason and many others, having a construction partner with the tools available to help specify, design and price quickly enables educated, timely decisions moving forward.



DID YOU KNOW?

A reliable Wi-Fi system can save operational costs on fire alarms and smoke detectors over time. There are systems that can report smoke detector battery levels prior to the batteries going low, leading to safer, more satisfied staff and clients. It could be a selling point for both of those reasons alone when evaluating the long-term performance and saving opportunities associated with connecting electrical systems to Wi-Fi.

The Weitz Company performs a fixture density verification analysis early in the design development phase to avoid the high outliers. We validate lumen output and foot candle requirements alongside your fixture density. It's a unique way of evaluating wattage at the meter, code required foot candles and upfront fixture cost.

Just think. Saving one-tenth of a watt of power (or 40 kilowatts to a 400,000-square-foot facility) at \$0.09 per kilowatt per hour is roughly \$3.60 dollars saved every hour at 100 percent usage. Now add that up.

- ✦ Identify specific changes or adjustments in budget.
- ✦ How do you maximize the cost of the design?
- ✦ How can you work with your architect or engineering consultant to create a "good design" and not over-engineer your design plans?
- ✦ What are the required codes for the building and how can you ensure to only pay for what you need?
- ✦ What costs are recoverable and what costs are not recoverable?

PRACTICE MAKES PERFECT

Continue to compare needs versus wants and identify potential areas for a return on investment. When it comes to most systems (especially electrical), asking questions can help you make decisions on needs versus wants to strengthen your project's value proposition.

ABOUT THE WEITZ COMPANY

As the sixth oldest A/E/C firm in the United States, The Weitz Company has forged its reputation on constantly seeking new construction innovations and technologies that provide clients with predictable, reliable and collaborative services. From first interaction with clients through project closeout, Weitz focuses on delivering value and eliminating waste during the construction process. It's a discipline that encompasses all of today's fundamental build qualities, and Weitz team members work diligently to align and elevate these practices to meet the specific needs (and wants) of every client.

About Our Contributor

As senior electrical preconstruction manager for The Weitz Company, Jim Rhoads is responsible for reviewing drawings for completeness and conflicts while assisting with the creation of electrical and low voltage scopes of work. His expertise is diverse and includes facilitating preconstruction services, value analysis, phase budgeting, operations and design assist services.

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