

# Equipment Management Getting to that 1%

One of the largest fundamental problems many construction companies face is capturing accurate equipment information. Data collection can be tedious, and details often slip through the cracks. How can a company make the leap from mere guesswork to achieving accurate equipment costs? The answer lies with thorough data collection based on owning and operating costs, and utilizing the right technology aids.



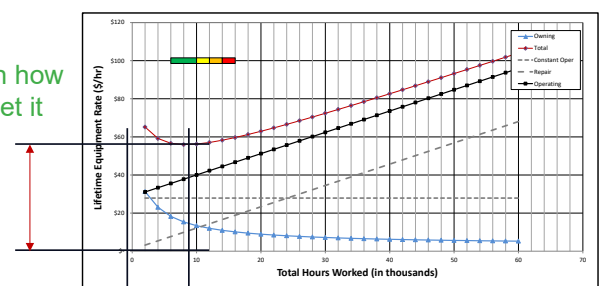
If repair, maintenance, ownership costs, and accurate meter readings are diligently recorded for each piece of equipment, a company can actually predict, rather than guess, their equipment lifecycles and optimal returns on investments. Creating historical data on the cost curves for owning and operating heavy equipment allows much more informed decisions about when to invest more in their fleet or when certain machines should be sold. Contractors can avoid the common problem of waiting too long to replace a piece of equipment. Using more informed data and metrics to create equipment benchmarks, they know when a machine will become more expensive to keep than it is worth.

How important is this to a contractor? Heavy equipment can comprise a significant portion of a project's budget as well as a company's financial footprint. According to one the CFO of a [Georgia-based paving company](#), "Our capital and operating budget for heavy equipment is easily in the eight figure range, so if you can save me 1% on equipment costs, you've just dropped six figures to my bottom line." The flip side of this coin is that even small inaccuracies in cost tracking can result in large cost overruns.

## Owning Costs, Operating Costs, and the Sweet Spot

Owning costs are fixed annually and are mostly established when a machine is purchased. They are based on factors including depreciation, interest, licenses, insurance and taxes. These are the costs of owning the equipment that one occurs regardless of if or how one uses it. As a machine ages, the incremental cost of ownership declines, due mostly to a slowdown in the rate of depreciation. Operating costs, on the other hand, go up over time for reasons that are fairly obvious such as an increase usage of fuel and oil to wearable part replacement to unexpected repairs.

Magnitude of the sweet spot  
\$ per hour  
Depends on how long you keet it



Timing of the sweet spot  
Life in hours  
Depends on cost

When you encounter two competing trends over time – such as the decreasing and increasing cost curves associated with equipment ownership and operations respectively – you can usually look for have a point of optimal return on investment. This so-called sweet spot occurs when the increasing cost of operations overtakes the effect of the decreasing cost of ownership for a machine. At no point will the machine ever be more profitable to have in your fleet and use on your jobs. This doesn't mean that after this point it's time to put the equipment out to pasture (or sale), but construction managers should be aware that they can expect to incur higher costs for its use.

### **Tracking, Analysis, and Decision**

Knowing the real total costs of operation of equipment over time starts with the obvious step of creating a process for gathering and tracking cost data. The biggest challenge here is usually perceived as being the capture of reliable operational data from the field – fuel and oil usage, wearable part replacement, etc. With telematics and [other mobile field capture technologies](#) becoming more prevalent and powerful, the real hurdle in most companies is what exactly to do with the data once captured.

Few construction or financial managers have the time to parse and crunch the data on field operational costs on their whole fleet, combine that with data on incremental owning costs, and uncover the real rates at which their machines should be charged as costs against their jobs – a rate that changes over time for each machine. Fewer still have the time to track the trends in those rates to see when it starts to make sense to retire certain machines and invest in new ones. Yet this is exactly what needs to happen if they are going to realize that big 1% bump to the bottom line.

For companies looking for that bump, the good news is that there are software applications out there specific to the management of heavy equipment that do what software is good at doing – taking large sets of data, parsing them, analyzing them, trending them, and reporting on them. The output of these applications can help managers know the real rates that should be applied to the use of all the machines in their fleet, and have information on hand to help with the difficult



decisions of when to sell, buy, or rent. And when this software is part of a full [business management system](#), this data can be integrated with job cost estimates and projections, ensuring that accurate bids are created and accurate job profitability is recorded.

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