Brightly

Return on Investment of Preventative Maintenance Benchmark

At Brightly, we provide the insights you need to make decisions today to drive optimal business outcomes tomorrow. The Return on Investment of Preventative Maintenance (ROI of PM) Benchmark is designed to support you in staffing discussions with your boss. Use this insight for these critical conversations with data to tell your story and get the resources you need to maximize the life of your assets.

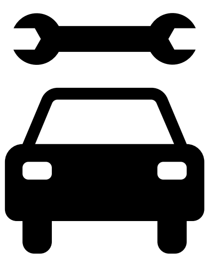
What is the ROI of PM Benchmark?

To understand the benchmark let's use an illustration as follows:

SCENARIO 1

YOU BUY A CAR: **$20,000**

YOU GET ANNUAL OIL CHANGES (PMs): **$50**

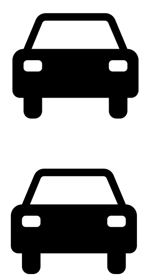


10 YEAR TOTAL
$20,500

SCENARIO 2

YOU BUY A CAR: **$20,000**

YOU DON'T GET OIL CHANGES AND **NEED A NEW CAR IN 5 YRS**



10 YEAR TOTAL
$40,000

$500 in PM operating expenses saves you $20K in capital over 10 years!

ROI of PM = 197%

What is the ROI of PM benchmark and what do I use this for?

The ROI of PM is a metric based on the simple concept that PM, such as oil changes in the above illustration, maximize the useful life of assets. Conversely, the absence of PM will shorten the useful life. Origin, one of our Brightly software products, makes the concept a reality for our clients using their assets and Origin's recommended PM schedules. This has produced a national benchmark set using well-documented assets from onsite facility condition assessments including:

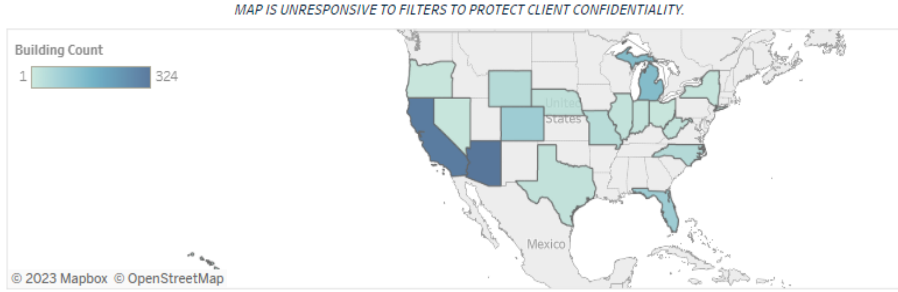
$13,743,543,476
Total Portfolio Replacement Cost

125,631
Assets

$6,494,709,911
47% Deferred Replacement Cost

105,389,670
Square Feet

MAP IS UNRESPONSIVE TO FILTERS TO PROTECT CLIENT CONFIDENTIALITY.



What do I use the ROI of PM benchmark for?

The ROI of PM may be used in staffing discussions with your upline and c-suite during budgeting for your maintenance team. It is impossible to eliminate repair/reactive staffing hours – things that break need to be fixed. However, PM hours tend to be cut when budget reductions are being pushed out to the organization. When we delay PM, we put our assets into a "death spiral" where unplanned failures occur and downtime increases, causing increased repairs. At Brightly, we know that a repair is on average four times more costly than a PM. It's only a matter of time before your asset portfolio begins to shift from partial to complete failure and full asset replacements are required well before straight-line expected useful life.

We know this, but how do we tell our story with data to our organization? The ROI of PM benchmark brings the conversation to them, in a language they understand, and will enlighten the budgeting decisions for your c suite when they discover the average ROI of PM on facilities assets exceeds 250%. Meaning, there is likely no better investment your organization can make than to fully staff your PM program. Alternatively reducing PM staff below a fully funded PM program will throw your assets, and financials, into a spiral that is very difficult to climb out of.

Finally, the ROI of PM can help you prioritize which PM to complete with the best long-term financial return. This is especially useful if you do not have a fully funded PM program.

What asset types are included in the benchmark?

Only facilities assets are included in the benchmark due to consistency in PM schedules for like asset type and sizes of equipment.

How do I get my organization's actual ROI of PM on all assets and types?

Please contact your Brightly Account Executive about Origin!

How does Brightly show Origin's ROI of PM benchmark on my AE assets?

Asset Essentials (AE) has many free text fields to make your life easier. In order to pass the benchmark to your assets, we need to map your assets into Origin's standard facilities asset subcategories (see document below for the list of included asset subcategories). We use Machine Learning (ML) to complete this mapping based on text from key fields on your assets.

ML has and will continue to change much of our day-to-day lives well into the future. One of the most exciting examples of ML in practice today is intrinsically linked to applications you likely use daily. Have you ever wondered why a product you were searching on Amazon yesterday is showing up in a YouTube ad you're watching today then again on a Facebook ad? Google tracks your search history and through machine learning understands what interests you and recommends these ads!

For Brightly's ROI of PM benchmark, we're using ML to predict Origin's asset subcategory on your AE assets. If the asset is included in the list of Origin's asset subcategories, we render the national ROI benchmark on that asset in Analytics for AE.

Why don't I see the benchmark on all my facilities assets?

On top of predicting the subcategory, ML also outputs an associated probability of the prediction. To ensure that our categorization is as accurate as possible, we have a high probability threshold set to categorize your assets. If there is not a strong probability, we exclude that asset from this benchmark. We consider several fields from your data to make the prediction, including:

- Asset Information: Asset Name, Asset Category, Asset Make
- Parent Asset Information: Parent Asset Name, Parent Asset Category
- Work Order Information: Work Type, Work Category, Problem, Cause, Description

Note, we always exclude assets where "Asset Category" and "Asset Name" fields contain no text.

What do I do if I see one of my assets has been predicted into the wrong asset subcategory?

To help our clients receive better insights from analytics as well as classification results for this release, we encourage our clients to avoid the following:

- Avoid using acronyms
    - Always spell out each word. E.g. instead of using "EF or ef", use "Exhaust Fan"
- Be consistent in describing the same asset category
    - Use the same word(s) and phrase(s) to describe the same object. Standardized descriptions will help us classify your asset category
    - If possible, work with your Brightly Software team to standardize asset names

Note that if you add/update an asset in Asset Essentials it will be re-categorized in the first week of the subsequent month and will update in your analytics dashboard at that time. Improved asset categorization will always help us improve our models over time so THANK YOU in advance!

My CFO wants to know more!

This insight connects operating expenses from PM recognized on a Profit & Loss (P&L) each year to capital outlays recognized on a Balance Sheet for asset replacement costs.

- It is cash-based. We don't inflate future asset replacement or labor costs as we would also have to discount back to today's dollars and adjust for internal hurdle rates, which we can't know for your organization.
- We stay conservative in our algorithms by assuming a reasonable useful life degradation of not performing any recommended PM of 20%.
- This benchmark is measured over the straight-line useful life of the asset.
- A select few asset categories have higher PM costs than capital savings over their expected lifetime in our model. This produces neutral to negative ROI of PM on these assets. They, however, are assets necessary to operate your facility and not performing PM will even further degrade the already negative ROI.

Operating expenses costs:

As the most significant cost component of PM, Origin includes full technician labor costs (including benefits) to fully staff our client's PM program per Origin's PM library. We do not include parts cost in our PM operating expenses nor do we incorporate any adverse operating expenses experienced due to not performing PM such as higher energy costs, load degradation, environmental or safety issues, asset downtime lost productivity, higher parts cost for emergent repairs, overtime or declining product quality.

Capital asset replacement costs:

Capital asset replacement costs include projected replacement costs for assets as well as labor included for the replacement.

Which facilities asset types specifically are included?

The following list comprises the available Origin subcategories with an associated ROI of PM: Actuators, air cleaners, air conditioners, air handling units, automatic transfer switches, backflow devices, batteries, battery powered lights, bms, boilers, booster pumps, branch panels, casework, ceilings, chemical feed systems, chemical fire suppression, chillers, compactors, compressors, condensate pumps, condensate receivers, condenser units, coolers, cooling towers, da tanks, dampers, disconnects, distribution panels, doors, drinking fountains, dryers, economizers, electrical distribution, elevators, escalators, exhaust hoods, exit signs, expansion tanks, exterior lighting, eyewash showers, facades, fan coil units, fans, filters, fire alarm, fire alarm devices, fire extinguishers, fire pumps, fire suppression, fire suppression components, fire suppression systems, flooring, freezers, fuel pumps, fuel tanks, furnaces, generators, glazing, heat exchangers, heat pumps, humidifiers, ice machines, interior lighting, isolation panels, kitchen equipment, laundry systems, lift gates, lighting controls, manifolds, manual transfer switches, med gas alarm panels, med gas zone valves, motor control centers, other tanks, panelboards, parking lots, plumbing systems, p-tube blowers, p-tube stations, p-tube xfer units, pumps, radiant heaters, refrigerators, ro systems, roofs, security systems, separators, spss, steam traps, substations, switchboard, terminal units, tools, transformers, turbine, unit heaters, ups, vacuum pumps, vehicles, vfds, wallcovering, water heaters, water softeners, and window units.

How often does the ROI of PM benchmark update?

Your data for this insight is updated during the first week of each month.