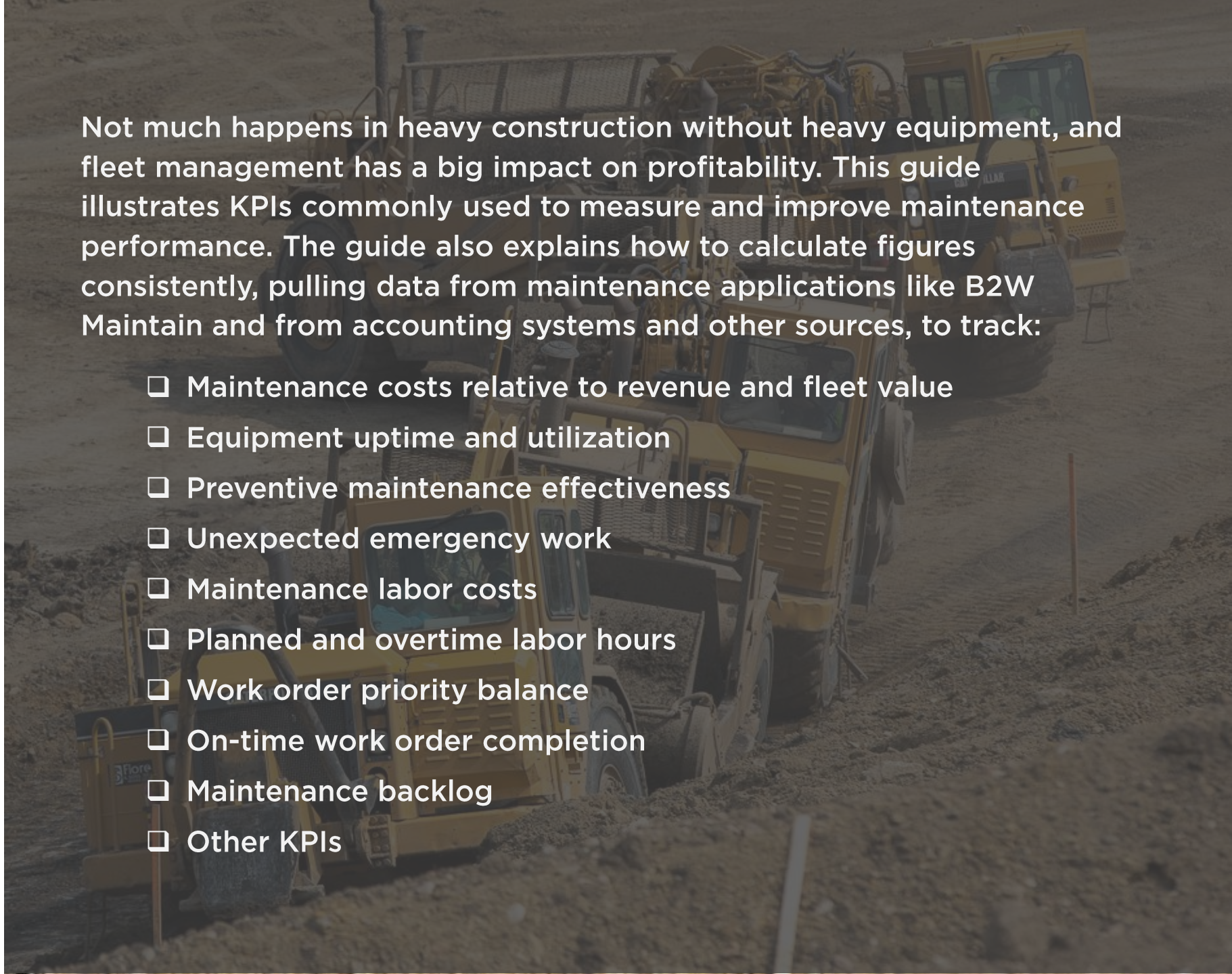
HEAVY CONSTRUCTION EQUIPMENT MAINTENANCE KPIs

B2W SOFTWARE

Learn how top maintenance operations:

- ❑ **Monitor key performance indicators**
- ❑ **Benchmark against industry standards.**



Not much happens in heavy construction without heavy equipment, and fleet management has a big impact on profitability. This guide illustrates KPIs commonly used to measure and improve maintenance performance. The guide also explains how to calculate figures consistently, pulling data from maintenance applications like B2W Maintain and from accounting systems and other sources, to track:

- ❑ Maintenance costs relative to revenue and fleet value
- ❑ Equipment uptime and utilization
- ❑ Preventive maintenance effectiveness
- ❑ Unexpected emergency work
- ❑ Maintenance labor costs
- ❑ Planned and overtime labor hours
- ❑ Work order priority balance
- ❑ On-time work order completion
- ❑ Maintenance backlog
- ❑ Other KPIs

EVALUATING MAINTENANCE COSTS

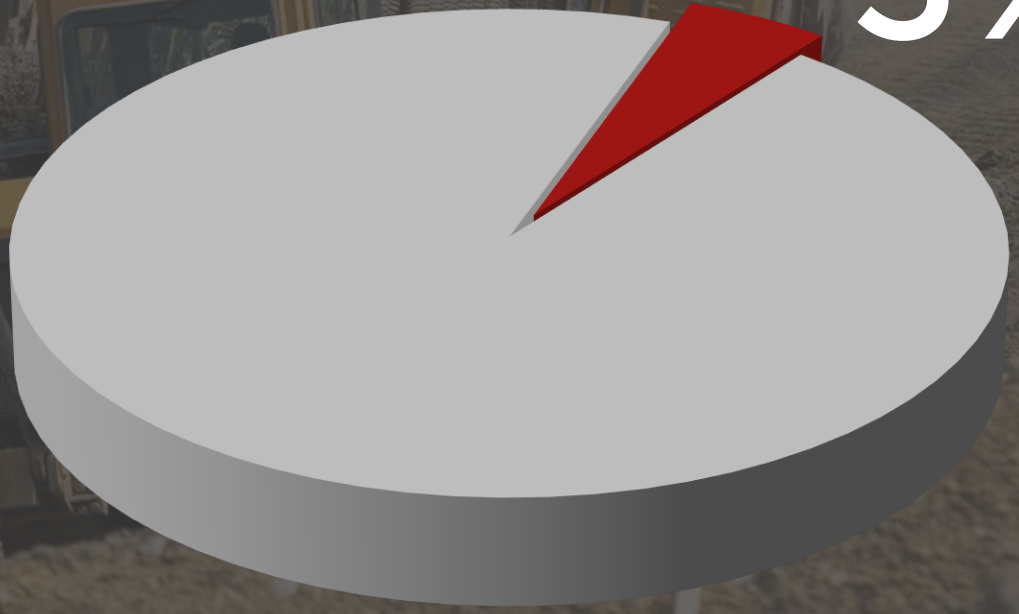
These two metrics track maintenance costs relative to revenue the company generates from construction work and to the estimated replacement value (ERV) of its fleet.

Data comes from the maintenance software and the accounting system. Costs include labor parts, supplies and any other indirect or overhead expenses. Fuel and ownership costs should be excluded.

Maintenance Costs ÷ Construction Revenue

Maintenance Costs ÷ Replacement Value

TARGETS: 5%



MAXIMIZING UPTIME & UTILIZATION

These metrics focus on minimizing unexpected or unplanned time that equipment is not able to be used.

Uptime measures the time a piece of equipment is available to be used relative to the time contractors plan to use it.

Similarly, utilization tracks how many hours a piece of equipment actually works versus the hours it was expected to work.

UPTIME

Available Hours
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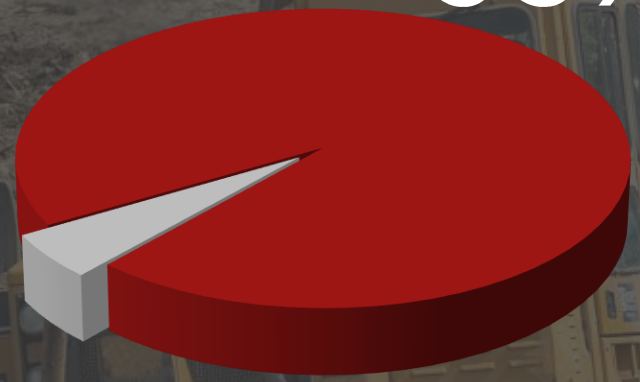
Planned Hours

TARGET:
95%



UTILIZATION

Actual Hours Used
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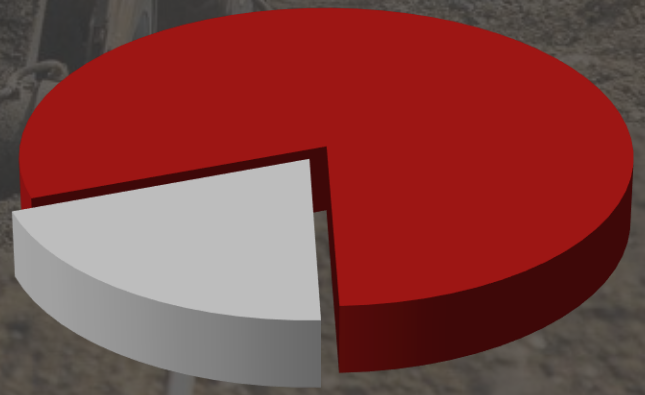
Planned Hours

TARGET:
80%



PREVENTING PROBLEMS

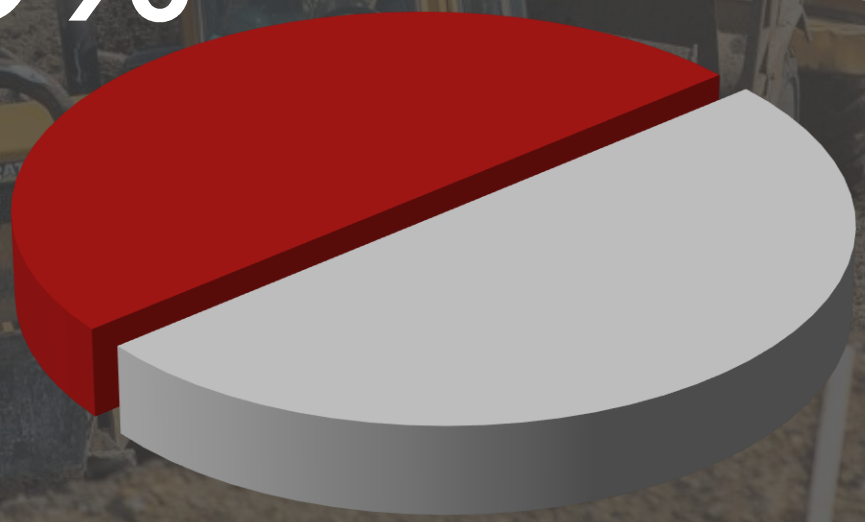
Servicing equipment at recommended intervals prevents failures. This can cut repair costs and increase uptime, safety and mechanic efficiency.

Preventive actions are defined for each piece of equipment and include inspections, cleanings, lubrication, adjustments, component replacement and minor repairs.

Figures are calculated from data within closed work orders.

Preventive Maintenance Hours ÷ Total Maintenance Hours

TARGET: 50%



PM Work Orders Completed ÷ PM Work Orders Due

TARGET: 80%

MINIMIZING EMERGENCY WORK

Excessive emergency work, required immediately when equipment is unexpectedly unable to perform, can increase costs significantly.

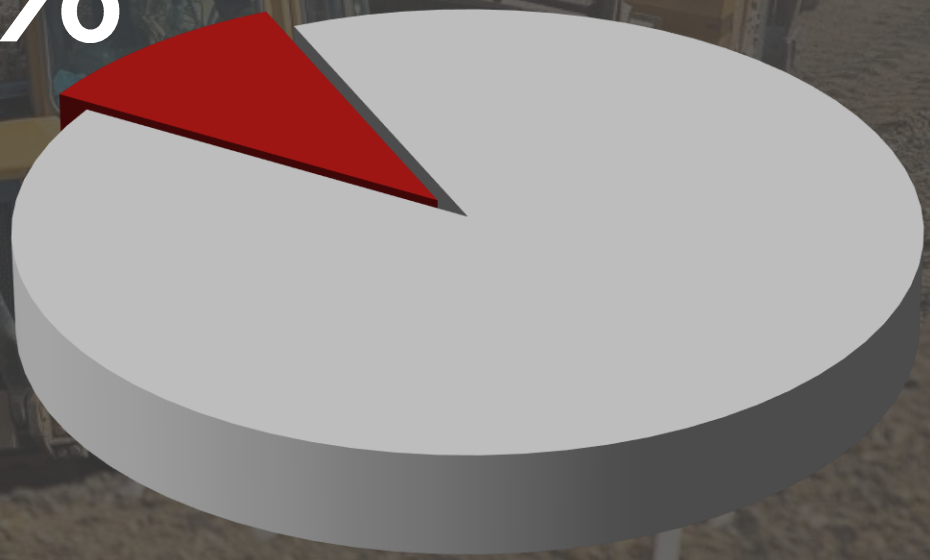
Figures are calculated from data within closed work orders. For the first, hours with a work type of “emergency” are divided by the total reported hours for all work types. For the second, the number of work requests with the type “emergency” is divided by total work request types.

Emergency Labor Hours ÷ Total Labor Hours

Emergency Work Requests ÷ Total Work Requests

TARGETS:

10%

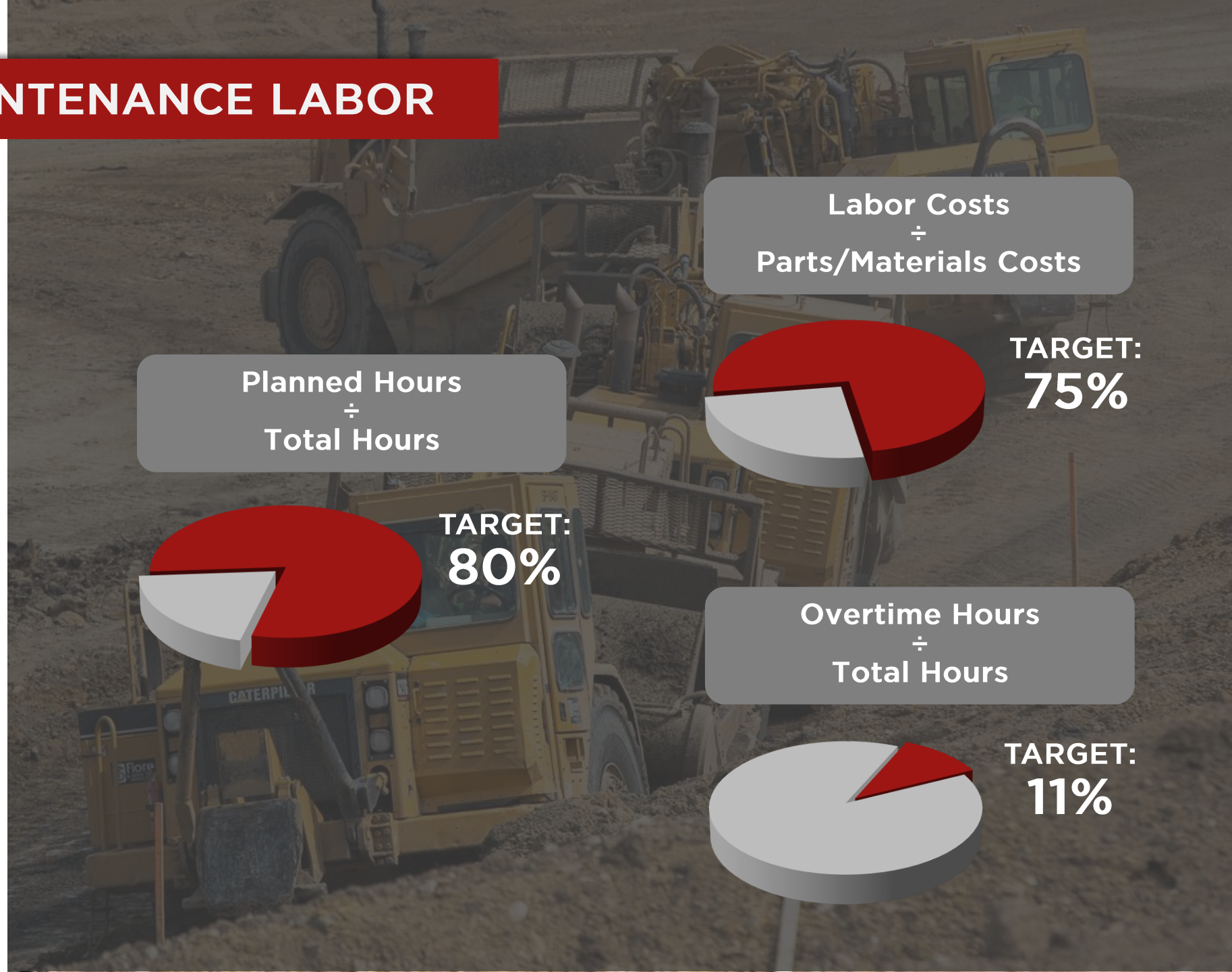


OPTIMIZING MAINTENANCE LABOR

Mechanics and shop personnel are well paid and hard to find. Limiting unplanned and overtime hours can be vital to minimizing overall maintenance costs.

Planned hours and overtime hours relative to total hours can be calculated from timecards.

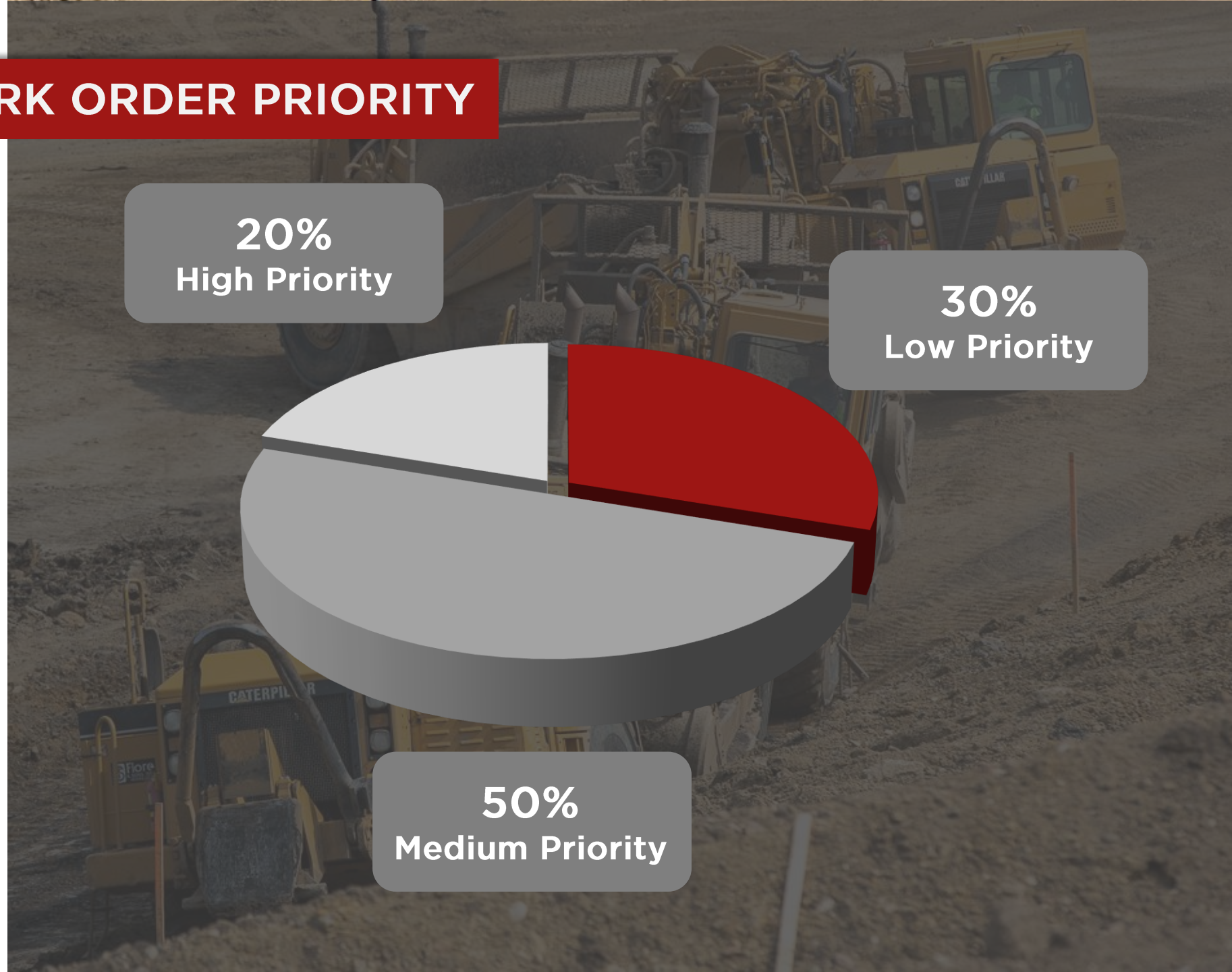
Labor costs relative to parts and materials is calculated from closed work orders by dividing the labor cost by the parts and materials costs



BALANCING WORK ORDER PRIORITY

The balance of priority types can indicate the success of proactive, preventive maintenance efforts. Minimizing high-priority work can also benefit mechanic efficiency, schedule compliance and uptime.

These figures are calculated from closed work orders by dividing each of the three individual priority types by the total of all priority types.



STAYING ON SCHEDULE

Completing work as scheduled and minimizing work identified but not yet completed can increase uptime and utilization while minimizing costs.

The first calculation indicates the volume of work orders completed on time, typically the week they were scheduled.

Weeks of work in backlog is calculated by dividing estimated labor hours on all upcoming planned work orders by the total available labor hours.

Scheduled Work Orders Completed
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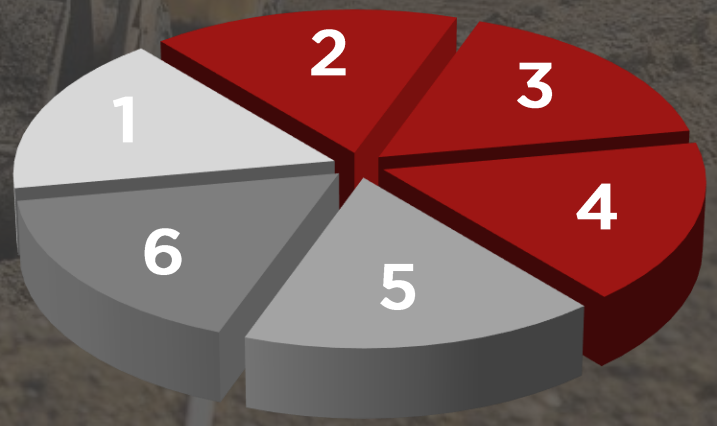
Scheduled Work Orders

TARGET:
80%

Weeks of Work in Backlog



MORE KPIs TO CONSIDER

These are additional performance metrics used frequently in heavy construction to measure and improve the effectiveness of maintenance operations.

Mileage of Mechanics
The distance mechanics travel to and from jobsites to complete maintenance work

Days to Repair
The time it takes to complete repairs after receiving a request or notification

Meantime Between Failure
The average time between failures for a piece of equipment, component or subcomponent

Inventory Turns
The value or cost of parts and consumables taken from inventory during a given period versus the average value or cost of total inventory held over that period

Mechanic Safety
Safety incidents relative to mechanic hours over a given period

Internal vs. External Rates
A comparison of the hourly cost of internal mechanics and the charges for labor provided by a dealer or other third-party source

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