WHITE PAPER

Benchmarking and improving distribution centre metrics

Best practices to optimise warehouse operations and lift truck fleet utilisation for 2025

Yale®
LIFT TRUCK TECHNOLOGIES

Whether replenishing retail locations or facilitating direct-to-consumer deliveries, you're tasked with moving inventory more quickly than ever to meet growing demand, making flexibility and efficiency imperative.

And to compete as a modern warehouse, metrics are critical to help you identify latent inefficiencies in daily work and power through peak challenges. But what distribution centre (DC) metrics are most valuable? What data should you lean on to track business strategies and ultimately drive operational efficiency?

This highlights potential metrics and best practices to help leverage lift truck fleets for best-in-class performance.

12 warehouse operational metrics

Here are 12 metrics for warehouse professionals to consider.

1. On-time shipments
2. Average warehouse capacity used
3. Peak warehouse capacity used
4. Order-picking accuracy
5. Dock-to-stock cycle time, in hours
6. Inventory count accuracy
7. Internal order cycle time
8. Total order cycle time
9. Percent of supplier orders received damage free
10. Lines picked and shipped per person hour
11. On-time ready to ship
12. Overtime hours to total hours

Operations- and capacity-based metrics can be key priorities to drive efficiency and cost savings. However, quality metrics also matter, providing even more granular control over costs as supply chain professionals brace for continued economic uncertainty. While there is a focus on cost control, warehouses deliberately focusing on foundational performance metrics that reduce errors, improve throughput and ultimately deliver downstream cost savings. For example, increased order picking accuracy leads to fewer mistakes and lower costs typically associated with wasted time and customer returns.

On-time shipments

Best-in-class operations must ship the vast majority of orders on time, meaning off the dock and in transit to the customer. To reach this level of efficiency, operations must make sure lift truck fleets are running at peak efficiency, with minimal downtime. Using best-fit power solutions and ensuring proper maintenance and parts availability are important factors.

USING BEST-FIT POWER SOLUTIONS

Lift truck power options are now more robust than ever, with newer technologies like lithium-ion batteries and thin plate pure lead (TPPL) proving their worth. By implementing the right lift truck power source, operations can unlock greater productivity.

Traditional lead-acid batteries can suffer performance degradation during the second half of their charge, leaving operators with a less-capable lift truck. This can negatively impact performance metrics, including the percent of shipments that leave later than expected.

TPPL offers a middle ground between lead-acid and lithium-ion. Relative to lead-acid, TPPL enables opportunity charging and eliminates battery maintenance requirements, and also provides faster recharging and less of a power output decline as the charge depletes. Lithium-ion batteries, meanwhile, deliver consistent power until full depletion and charge up to two times faster than lead-acid.

ARRANGING PROPER MAINTENANCE AND PARTS AVAILABILITY

Factory-trained, certified technicians offer superior product knowledge to help keep lift trucks running and shipments moving. The combined geographic footprint of the lift truck original equipment manufacturer (OEM) and dealer network affects service capacity and how quickly unscheduled service issues can be addressed. The larger the dealer network, the faster the response, the less downtime.

Additionally, telemetry systems with fault-code monitoring can automatically contact the service organisation to initiate maintenance if a fault code is triggered. This can prevent minor issues that may not be apparent to operators from escalating into more serious problems.

Average warehouse capacity used

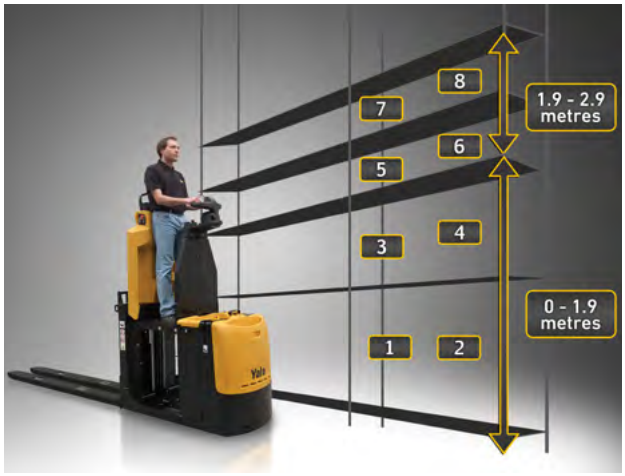
Assessing how much of the available warehouse space is being used can provide a useful benchmark. Operations can improve their response to shifting inventory demands by using lift truck fleets that are designed to support optimised storage configurations and efficient workflow strategies. Best practices that support optimisation include:

- Implementing slotting and storage strategies
- Using cross-docking

IMPLEMENTING SLOTTING AND STORAGE STRATEGIES

Growing SKUs and order counts can complicate efficient use of space. These conditions can force DCs to expand their picking footprint, reduce slot sizes, and reduce inventory in each pick slot, risking decreased efficiency and productivity. Conducting a slotting analysis can determine the optimal storage space and location for each item, some of which might be at height. The conversation then shifts to enlisting the right equipment, with appropriate speed, dimensions, and vertical heights to access the loads.

For instance, a low-level order picker can raise operators vertically to expand the "golden zone" of the pick face. This can enable new slotting strategies to help increase pick positions up to 400% and slot capacity 140% within the same footprint.



Warehouse configurations with tall, narrow aisles can benefit from reach trucks with double-deep reach capabilities that allow operations to maximise storage density by easily storing and retrieving loads from storage positions that are two pallets deep. When lifting and placing loads at height, characteristics such as strong visibility through the mast are especially important for productivity. A significant front field of view for the operator helps optimise visibility of the forks and load for precise, efficient handling. Other tools like wireless cameras, built-in fork LED lights, or even fork laser levels can help boost precision and accuracy when picking and placing loads at height.

USING CROSS-DOCKING

Cross-docking involves transferring incoming merchandise from receiving directly to shipping, without spending time in storage. This workflow can help move goods more rapidly, reducing inventory levels and permitting for more efficient use of existing warehouse storage capacity.

Order picking accuracy

The core focus of this benchmark is accuracy, picking the right items, every time. However the efficiency of those picks is important, too. While delivery speed expectations may have softened post-COVID, speed within the four walls of warehouses still matters. Order picking efficiency plays a key role in overall turnaround time. Recommendations to support order picking performance include:

- Focusing pickers on picking
- Optimising operator handling and visibility

FOCUSING PICKERS ON PICKING

Best-in-class operations focus on minimising pickers' travel time, on foot and on lift trucks, so they can dedicate more time to actually picking orders. Strategies like limiting the number of aisles a picker must cover help reduce time spent in transit, minimise product touches and damage, and ease aisle congestion. When longer distances are unavoidable, using ride-on pallet trucks, instead of pedestrian pallet trucks that operators must walk behind or alongside, can significantly speed up travel between pick locations.

Focusing pickers goes beyond reducing the physical territory they must cover. It's equally important to keep them comfortable and confident on the job. If operators are picking at floor level, consider a pallet truck with features designed for operator comfort and productivity that lasts through the shift. Depending on the model, examples include a platform cushion for reduced vibration, auxiliary controls, and electric steering for easier manoeuvrability.

If picking at height, medium and high-level order pickers should provide a sense of stability and security while operators are working on a raised platform. Folding side gates with one-hand operation offer side protection and quick access can help increase operator confidence and performance in the compartment. Stepless speed control can maximise travel speed while smoothing out speed adjustments to minimise the movements that can distract or unsettle operators picking at high-level bays. Look for technology that drives productivity. A wire guidance system allows operators to focus on picking, not steering. Multi-turn steering increases sensitivity for more granular control and agility.

OPTIMISING OPERATOR HANDLING AND VISIBILITY

To improve order picking accuracy and efficiency — especially in high-throughput environments shaped by e-commerce demand — warehouse professionals should consider using specialised picking carts or baskets with dividers. These attachments, which can be mounted on order pickers or pallet trucks, allow operators to sort multiple orders simultaneously while keeping items separated, increasing the odds that the right products end up in the right package.

Just as visibility is critical for picking and placing loads in storage, it's also important for correctly, efficiently pulling the right items, whether at height or floor level. Equipment features like LED fork lights can enhance visibility at the pick point and help minimise risk of collisions that disrupt smooth, efficient picking. Also consider overall facility lighting upgrades, especially if workspaces are dimly lit. Additional or brighter lights can noticeably enhance speed and accuracy.

Dock-to-stock cycle time

Moving inventory from the receiving dock to storage and recording it in inventory management systems should ideally happen in a matter of a few hours. But operations are challenged with two major trends: accommodating growing SKU counts and deliveries, and labour shortages, leaving warehouse positions unfilled and turning over regularly. Best practices to enhance put away include:

- Using technology to move product more efficiently
- Eliminating unnecessary product touches

Operator assist solutions (OAS) are a step that warehouses can take today, speeding up dock-to-stock times by supporting both operator confidence and productivity. Disruptions like crashes or tip overs can delay product put away and result in equipment downtime that further hampers productivity. An OAS can help to limit the risk of these accidents by increasing reaction time and reinforcing adherence to best practices.

ELIMINATING UNNECESSARY PRODUCT TOUCHES

Unnecessary product touches and movements are wasteful and slow cycle times. Using telemetry systems, operations can track movements to eliminate unnecessary steps, minimising product touches and reducing put away times.

Rising to best-in-class DC performance

You can't afford to settle for status quo solutions and strategies. Achieving best-in-class performance requires both the attention and resources for continuous improvement. Top DCs strive to constantly improve velocity and accuracy, while fostering a culture of self-examination that enables warehouses to identify and remove inefficiencies and excess costs.

The labour safety, and productivity challenges that make it so difficult for operations to attain and uphold high levels of performance should directly inform materials handling solutions. At Yale, customer challenges are the foundation of product design and engineering, so that resulting equipment and technologies are precisely matched solutions to help address these issues.

For a deeper conversation about achieving best-in-class performance, contact a solutions expert at your local Yale® dealer.

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