

Warehouse Storage Cost

How-to guide: what the workbook does, how to use it and what every number means.

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Warehouse Storage Cost

Turn your warehouse's annual costs into a cost per occupied pallet per month, and compare it month by month with a 3PL quote.

For: Operations, logistics and warehouse managers, plant controllers and anyone weighing an in-house warehouse against a 3PL.

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Quick start

1. On Setup, type your site name, currency, pallet positions and occupancy target, and the 3PL quote you want to compare against.
2. On Cost Register, list every annual warehouse cost with the share of it that pays for holding space (the rest is handling).
3. On Monthly Activity, add one row per month: average occupied pallets, pallets received and pallets shipped.
4. Open the Dashboard: occupancy, in-house vs 3PL cost per occupied pallet-month, the twelve-month difference and the break-even occupancy.

What is in the workbook

Start Here	Read this first: what the workbook does and how to use it.
Setup	Site, currency, pallet positions, your occupancy target, the 3PL quote to compare against, and the cost categories.
Cost Register	Every annual warehouse cost, split into the part that pays for holding space and the part that pays for moving pallets.
Monthly Activity	One row per month: occupied pallets and pallet movements, priced in-house and at the 3PL quote.
Dashboard	Occupancy, in-house vs 3PL cost per occupied pallet-month, the difference over the period and the break-even occupancy.
Method	How every number is calculated, with assumptions, limits and sources.
Verify	Self-check: the workbook's formulas recomputed on fixed inputs against an independent reference.

What each number means

Quantity	How it is calculated	Units
Storage and handling cost	Per cost line: annual cost x storage share, and annual cost - storage cost, per year.	currency

Quantity	How it is calculated	Units
Monthly storage and handling cost	Sum of the storage (or handling) cost column / 12.	currency
Storage cost per pallet position	Monthly storage cost / pallet positions on Setup, per month (capacity basis: what each position costs whether used or not).	currency
Occupancy	Average occupied pallets / pallet positions; status against your occupancy target (Near target = within 5% below it).	%
In-house cost (month)	Monthly storage cost + monthly handling cost: fixed in the short run.	currency
In-house per pallet-month	In-house cost / average occupied pallets: what each occupied position cost that month (per pallet-month).	currency
Handling per pallet moved	Monthly handling cost / (pallets received + pallets shipped).	currency/pallet
3PL equivalent (month)	Occupied pallets x storage rate x 1 month + received x handling in + shipped x handling out + account charges (the live calculator's model). Excel: =[@[3PL storage]]+[@[3PL handling]]+Admin3PL	currency
3PL per pallet-month	3PL equivalent / average occupied pallets.	currency
In-house minus 3PL	In-house cost - 3PL equivalent; positive means the quote is cheaper that month. Cheaper option names the lower one.	currency
Period figures	Sums over the months on the log: occupancy = sum of occupied pallets / (months x positions); cost per pallet-month = sum of cost / sum of occupied pallets (pallet-months).	-
Break-even occupancy (est.)	(In-house cost - 3PL handling - months x account charges) / (storage rate x months), as a share of positions: the average occupancy at which the quote would cost the same as in-house, if handling volumes stayed as logged.	%
Per occupied pallet-month (category)	The category's annual cost / 12 x months on the log / sum of occupied pallets.	currency

Assumptions, limitations, sources and the self-check (the Verify sheet, which recomputes the workbook's formulas on fixed test inputs) are in the workbook. The last page shows the Dashboard with the example data for Westmoor Garden Products, a fictional business.

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Engineering estimates for planning and improvement work. Verify the results against your own process, data and standards before you rely on them.

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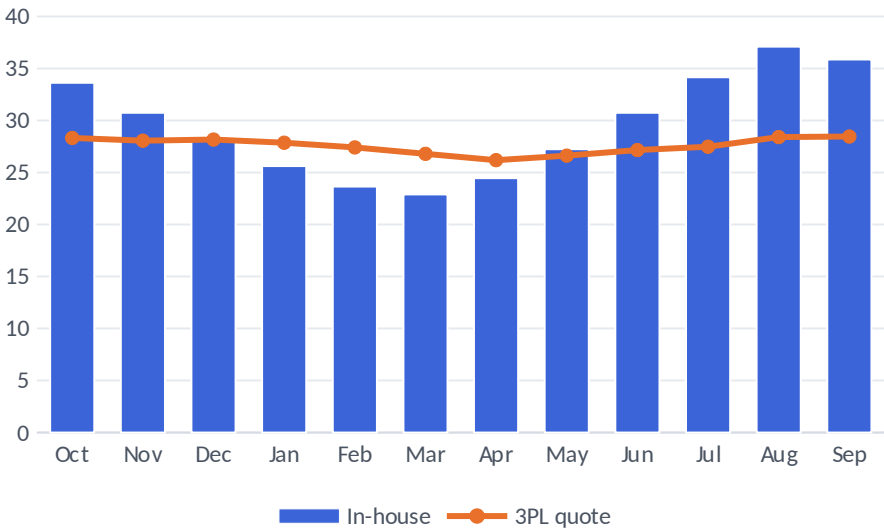
Occupancy, in-house vs 3PL cost per occupied pallet-month, the difference over the period and the break-even occupancy.

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Showing 12 months for Westmoor Garden Products (example), 1400 pallet positions. In-house cost is fixed per month; the 3PL quote varies with occupancy and movements.

AVERAGE OCCUPANCY	IN-HOUSE PER PALLET-MONTH (USD)	IN-HOUSE MINUS 3PL (USD, EST.)	BREAK-EVEN OCCUPANCY (EST.)
74.8%	28.79	+16,190	80.3%
Target 85.0%	3PL quote 27.50	Positive: the 3PL quote is cheaper	In-house is cheaper above this
Below target	Near target		

Cost per occupied pallet-month: in-house vs 3PL quote



Occupancy by month, target and break-even

