

Data-Driven Warehouse Design for Scalable, Risk-Resilient 3PL RFP

Transforming raw logistics data into accurate, implementation-ready proposals that win trust and reduce operational risk.

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CONF42 GOLANG 2026

The Problem with Generic Proposals



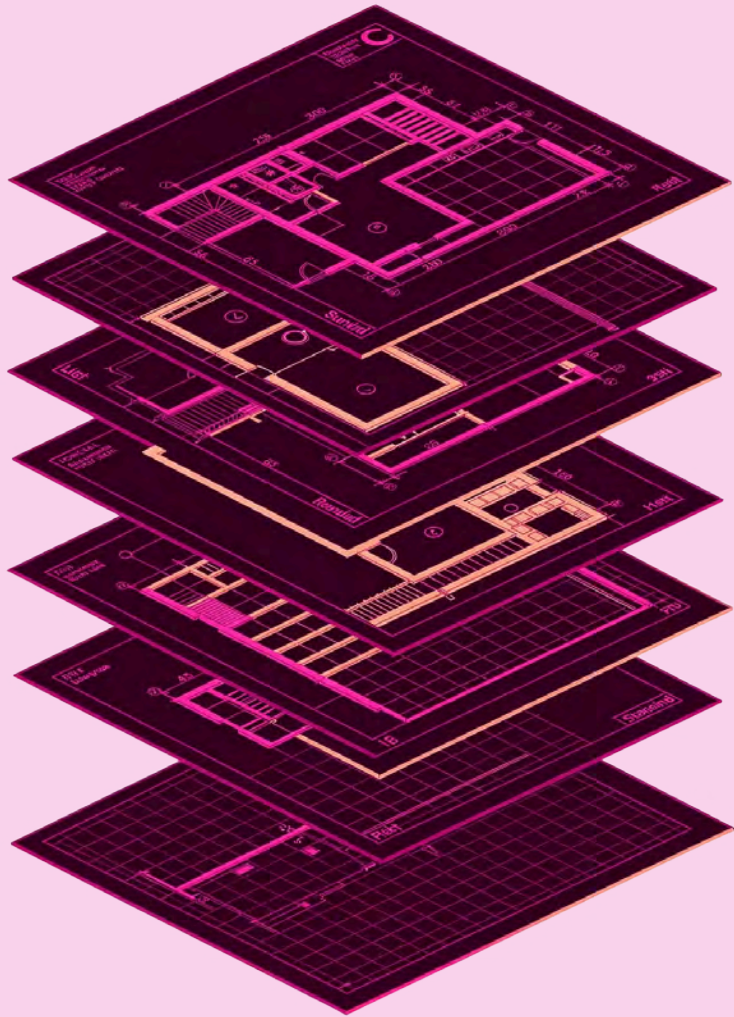
Where Most RFPs Fall Short

Large-scale 3PL RFPs demand more than competitive pricing. Yet many proposals still rely on generic assumptions creating dangerous misalignment with real-world operations and driving up implementation risk before the contract even starts.

→ Assumption-based capacity estimates

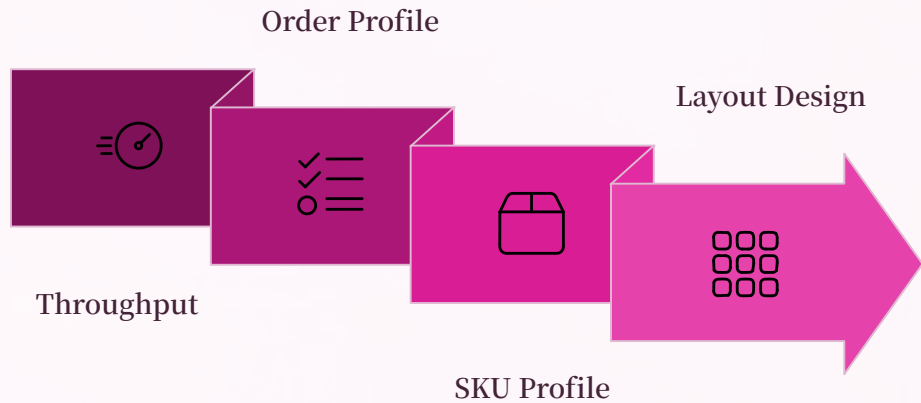
→ Misaligned fulfillment strategies

→ Indefensible cost structures



The Framework: From Data to Proposal

A structured, six-layer methodology that converts operational data into a credible, scalable, and implementation-ready warehouse design.



Each layer builds on the last ensuring every design decision is grounded in actual operational data, not industry averages.

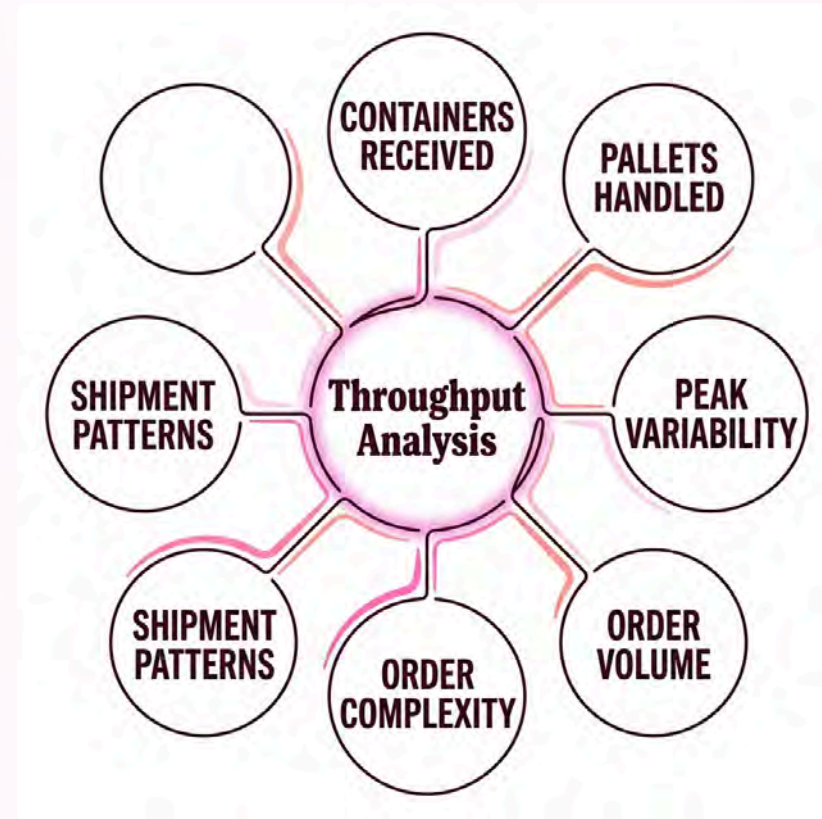
Layer 1: Throughput Analysis

Inbound Metrics

- Containers received per day/week
- Pallets handled and putaway velocity
- Peak variability and seasonal surges

Outbound Metrics

- Order volume and daily shipment patterns
- Order complexity and line item depth
- Carrier cut-off windows and dock utilization



Throughput analysis defines **true capacity requirements** the foundation every other design decision rests on.



Layer 2: Order Profile Analysis

SKU Breadth

Total active SKUs and assortment depth inform pick path complexity and slotting density requirements.

Order Size Distribution

Single-line vs. multi-line order mix drives the selection of fulfillment strategy and zone configuration.

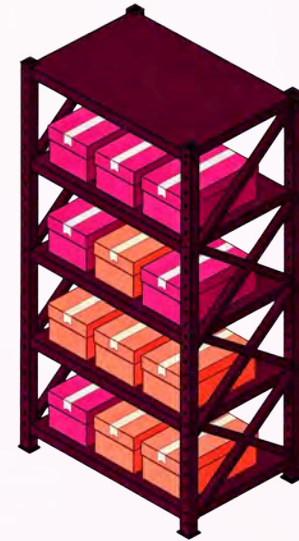
Pick Type Selection

Data determines whether batch, zone, or wave picking delivers the best throughput for a given order profile.

Layer 3: SKU & Inventory Profiling

Velocity-Based Segmentation

SKUs are classified into velocity tiers fast, medium, and slow movers to optimize storage placement and minimize picker travel distance.



Fast Movers (A)

Forward pick locations, ground level, shortest travel paths

Medium Movers (B)

Secondary pick zones, optimized replenishment cycles

Slow Movers (C)

Reserve storage, bulk racking, minimized prime real estate

Layer 4: Warehouse Layout & Storage Design

Inventory and throughput data directly shape every physical design decision from dock doors to storage systems.

- **Material Flow**

Inbound, storage, and outbound zones aligned to minimize cross-traffic and maximize throughput velocity.

- **Dock Configuration**

Door count, staging depth, and inbound/outbound separation driven by volume and carrier mix data.

- **Storage Systems**

Selective, drive-in, flow rack, or mezzanine selected based on SKU profile, turn rates, and cube utilization targets.

Layer 5: Labor Modeling



Engineering Standards–Based Workforce Planning

Operational volumes are translated into precise headcount requirements using industrial engineering standards not rules of thumb.

- Receiving, putaway, replenishment, picking, packing, and shipping modeled separately
- Peak staffing requirements quantified by function and shift
- Supervisory ratios and indirect labor factored in
- Outputs feed directly into cost modeling and facility sizing

Layer 6: Equipment, Cost & Customer Validation

Equipment Selection

MHE, lift trucks, conveyors, and automation derived directly from throughput and labor models not standard templates.

Customer Validation

Assumptions and design outputs are reviewed with the customer before submission to confirm alignment and eliminate surprises.

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Transparent Cost Build

Every cost line labor, equipment, facility, technology is traceable to a data input, enabling confident RFP defense.

Data Continuity

Proposal data flows into implementation planning, ensuring a smooth transition from award to go-live.

This final layer converts technical rigor into a defensible, client-aligned proposal and sets the stage for successful implementation.

Key Takeaways

- **Data replaces assumptions**

Every design decision storage, labor, cost flows from actual customer operational data.

- **Credibility reduces risk**

Traceable, defensible cost structures build trust with evaluation committees and reduce implementation surprises.

- **Continuity accelerates go-live**

When proposal data feeds directly into implementation, transitions are faster, smoother, and lower-risk.



Thank You!!