USER GUIDE

Supply Chain Strategy System
A Step-by-Step Guide

A plain-language walkthrough of all seven phases — written for readers who are new to supply chain management. Every step shows a real screenshot of the system and explains, in everyday terms, what it means and why it matters.

Published by: Practical Digital Lab
Date: October 8, 2026
Document type: User guide

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Copyright & Declaration

Declaration

This manual, the *Supply Chain Strategy System — User Guide*, is a production of **Practical Digital Lab**. It was written and published by Practical Digital Lab to support users of the Supply Chain Strategy System in learning the tool from first use through day-to-day operation.

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All screenshots in this guide were captured directly from the live Supply Chain Strategy System using sample data, and are reproduced here solely to illustrate the system's operation.

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How to Use This Guide

This guide is written for someone who has never used a supply chain planning tool before. You do not need a background in logistics, finance, or data analysis to follow it — every term that might be unfamiliar is explained the first time it comes up, in a shaded glossary box like the one below.

A few words you'll see throughout this guide

Supply chain
The whole chain of activity that gets a product from where it's made to where a customer buys it — warehouses, trucks, inventory, and the decisions that connect them.

Distribution Center (DC)
A warehouse that stores goods and ships them out to customers or stores in its region. A company's "network" is simply the set of DCs it operates and how they're connected.

Baseline
The starting picture of how things work today — current costs, current shipping routes, current stock levels — before anything is changed.

Lane
A shipping route between two points, e.g. "DC-01 to Phoenix." Lanes are what carriers (trucking or freight companies) are paid to run.

SKU
Short for Stock Keeping Unit — a unique code for one specific product, used to track how much of it exists and where.

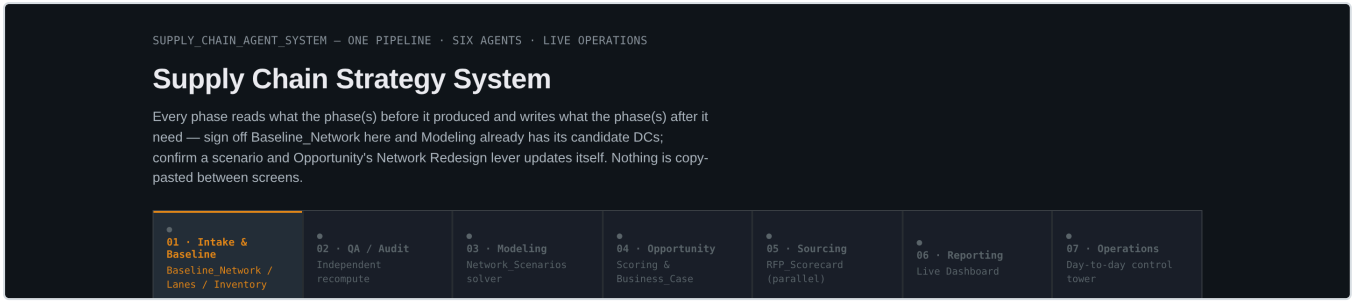
Each of the seven sections that follow covers one phase (step) of the system, in the order you would actually use them. Every section follows the same pattern:

- **What this step is for** — in plain language, before any screenshots.
- **Screenshots** of the actual screen, taken from the live system.
- **A shaded explanation box** under each screenshot, describing exactly what you're looking at and what to do with it.

You can read this guide start to finish before using the system for the first time, or keep it open side by side with the tool and jump to whichever step you're on.

Getting Started — the Seven Phases at a Glance

When you open the Supply Chain Strategy System, you'll see a row of seven tabs across the top. Each tab is one phase of the process, and — this is the most important thing to understand before you start — **they are connected**. A decision you confirm in one phase automatically flows into every phase after it. You never have to copy a number from one screen and type it into another.



The seven phases, shown as tabs across the top of every screen. You work through them left to right.

What you're looking at

This is the home screen. The seven boxes are the seven phases of the system, in the order you work through them: (1) load and clean your data, (2) have it independently double-checked, (3) model a better network, (4) build the financial case for improving it, (5) get competitive shipping quotes, (6) see it all summarized on one dashboard, and (7) keep watching the network day to day after that. A small dot above each phase's name turns from grey to colored once that phase has something confirmed in it, so at a glance you can see how far through the process you are.

The remaining sections of this guide walk through each of these seven phases, one at a time, using the system's own built-in sample data so you can see exactly what each screen looks like with real numbers in it.

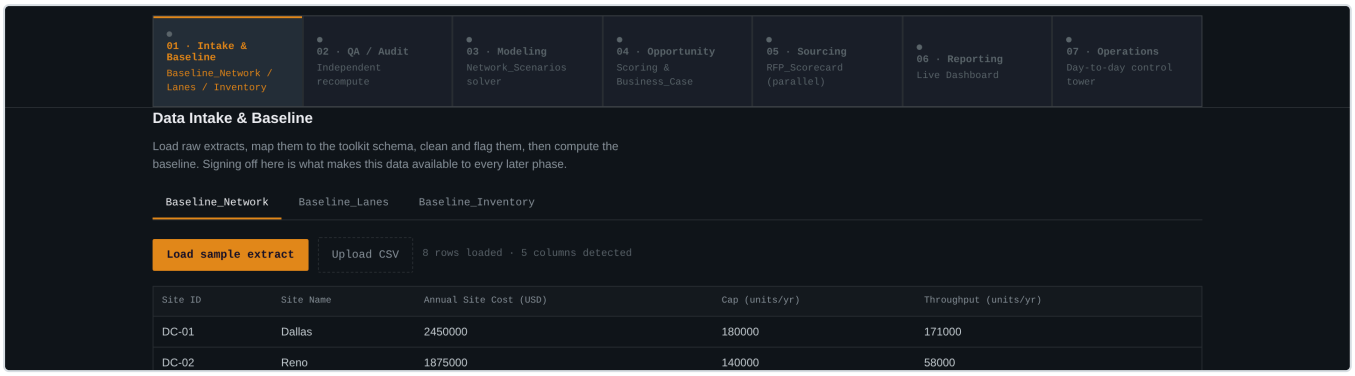
1 Data Intake & Baseline

This is where every piece of work in the system begins: getting your real-world data in.

Before you start

Why "baseline" matters

Nothing else in the system can run without this step. Think of it as telling the system "here is what our network actually looks like today" — every later phase builds on top of this picture.



The Data Intake screen for the network sheet, with the "Load sample extract" button and the first rows of data.

What you're looking at

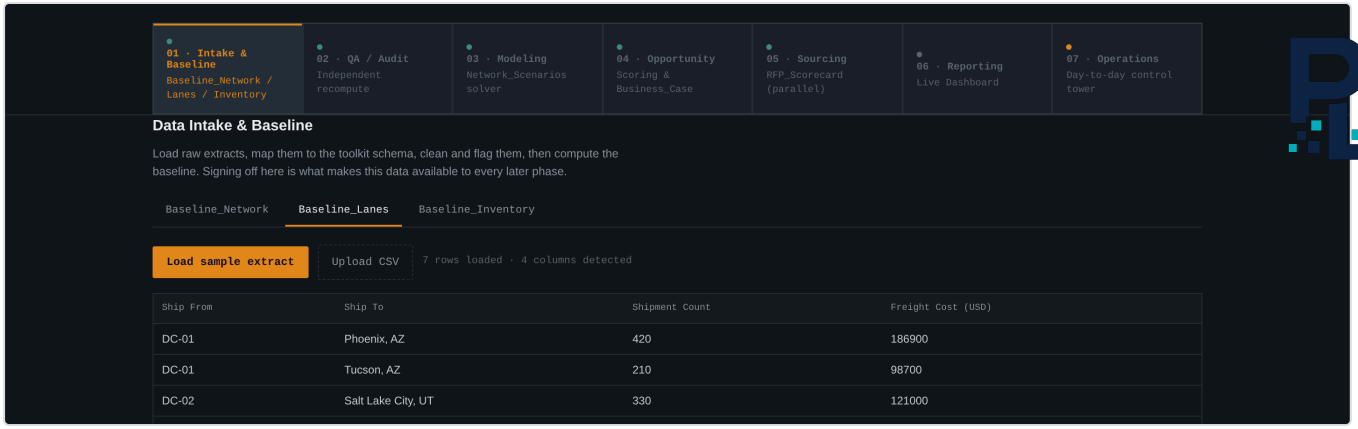
This is the first thing you do: bring your data in. You can either click **"Load sample extract"** to try the system with built-in example data (which is what this guide uses throughout), or click **"Upload CSV"** to bring in your own spreadsheet export. There are three tabs here — *Baseline_Network* (your warehouses), *Baseline_Lanes* (your shipping routes), and *Baseline_Inventory* (your stock) — and you load each one the same way. You don't need your spreadsheet's column headers to match exactly; the system matches similar-sounding column names on its own.



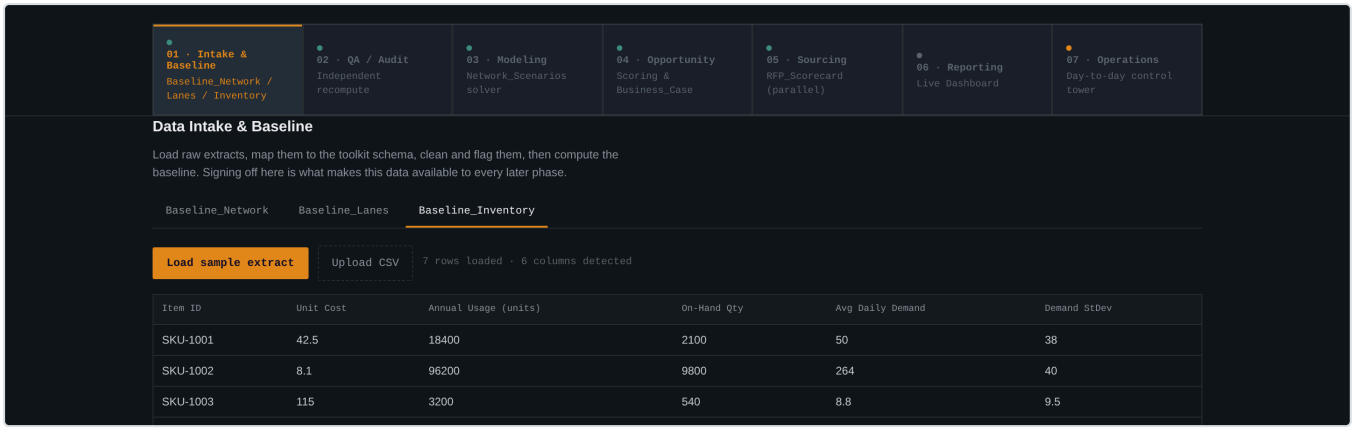
After cleaning: 8 records were loaded, 6 passed automatically, and 2 were set aside for review.

What you're looking at

Once your data is loaded, the system checks every row for obvious problems — things like a negative cost, or a required value that's missing. Here, out of 8 warehouse records, 6 passed cleanly and 2 were flagged. **This does not stop you from continuing.** The 2 flagged rows are set aside in an editable table (not shown here) where you can see exactly what's wrong with each one, fix it, and feed it back into the batch — while the 6 good rows are already usable by the rest of the system. This "don't block on one bad row" behavior runs throughout the entire system, not just here.



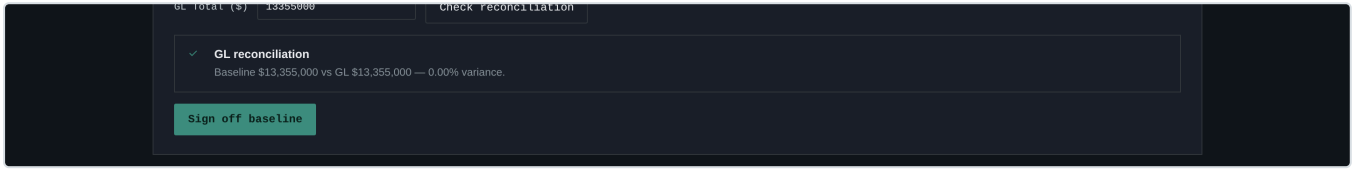
The shipping-lane sheet, cleaned and approved.



The inventory (stock) sheet, cleaned and approved.

What you're looking at

Your shipping routes and your stock levels go through the exact same load-then-clean pattern as your warehouses. Once you're satisfied the data looks right, you tick the approve box for each one — this is your confirmation that the data is correct and ready to use.



Entering your accounting total and checking it against the system's total, before signing off.

What you're looking at

Before your warehouse data can be used elsewhere, the system asks you to type in the total cost figure from your own accounting records (your "GL total," short for General Ledger). It compares that number to what it calculated from your data. Here they matched exactly (0.00% difference), so the green **"Sign off baseline"** button became available. This step exists to catch a very common real-world problem: a spreadsheet that looks fine but doesn't actually add up to what your finance team has on record.

Key action: clicking "Sign off baseline" (and the approve boxes for lanes and inventory) is what unlocks every phase after this one. Until you do this, the later tabs have nothing to work with.

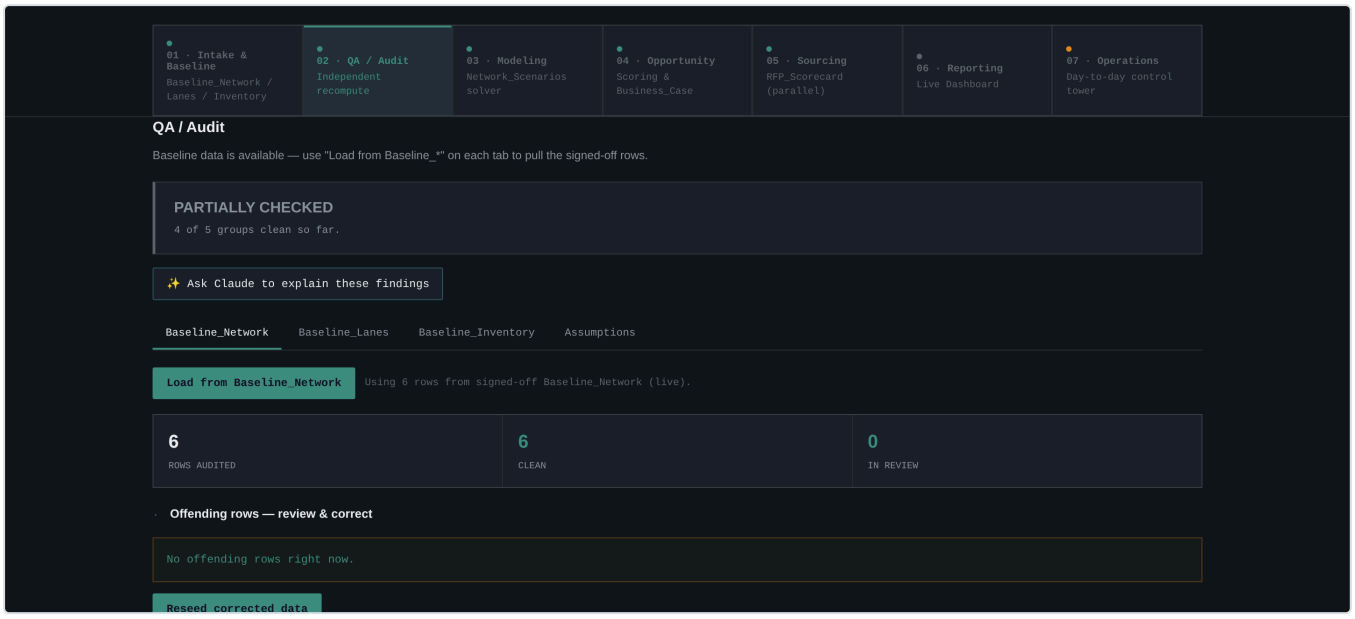
2 QA / Audit

A second, independent pair of eyes on the same data — done automatically.

Why have a separate checking step at all?

Independent check

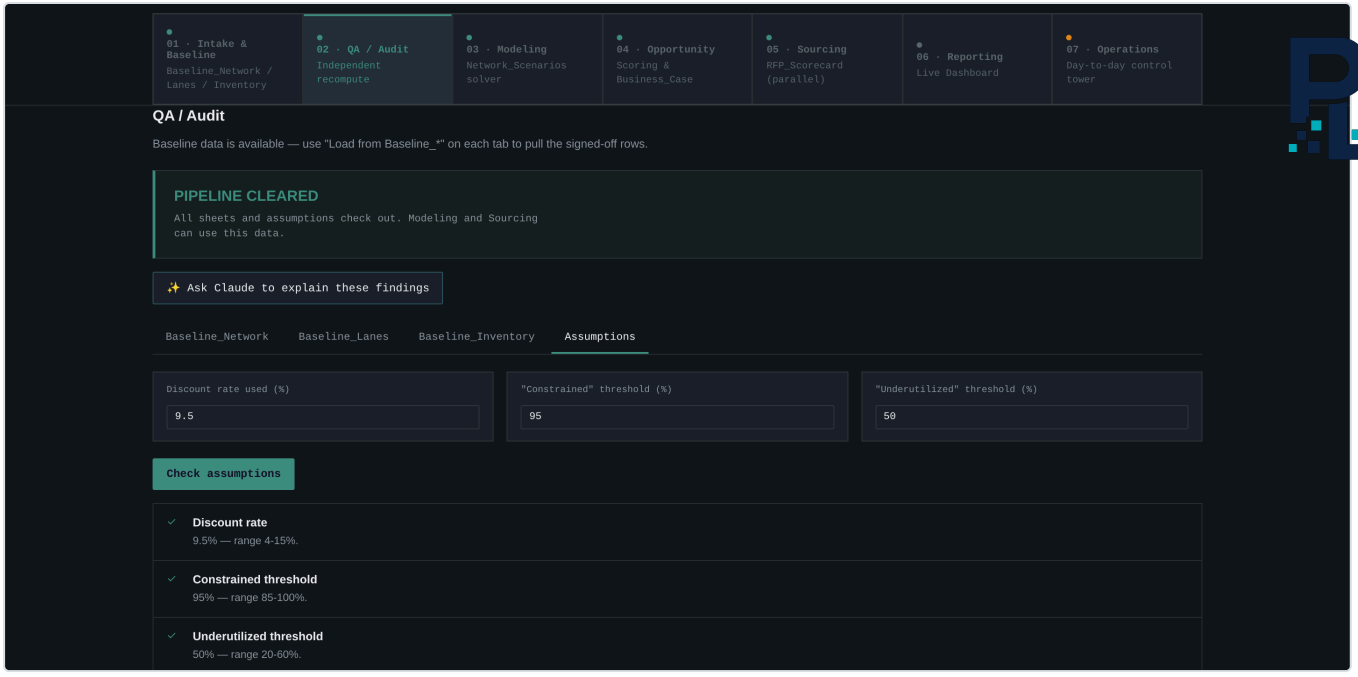
Instead of trusting the numbers Phase 1 calculated, this phase recalculates everything itself, from the same raw data, and compares its own answer to Phase 1's. This is the same idea as having a second accountant check a first accountant's work, rather than just re-reading the first accountant's summary.



The warehouse totals, recalculated independently and checked against your accounting figure again.

What you're looking at

This looks similar to the sign-off step in Phase 1, but the number shown here was computed completely separately, without reusing Phase 1's math. Getting the same answer twice, by two different calculations, is much stronger evidence that the data is right than getting it once.



The overall status box, plus three planning assumptions being checked against sensible ranges.

What you're looking at

Three numbers that affect calculations later in the system — the discount rate used for financial projections, and two thresholds that decide when a warehouse counts as "over-capacity" or "under-used" — are checked here to make sure they're realistic (for example, a discount rate is expected to fall somewhere between 4% and 15%; entering 400% by mistake would be caught here). Once every sheet and every assumption passes, the big banner at the top reads **"PIPELINE CLEARED"** in green, meaning Modeling and Sourcing (the next phases) are allowed to use this data.

3 Modeling

Where the system works out whether a different warehouse network would cost less.

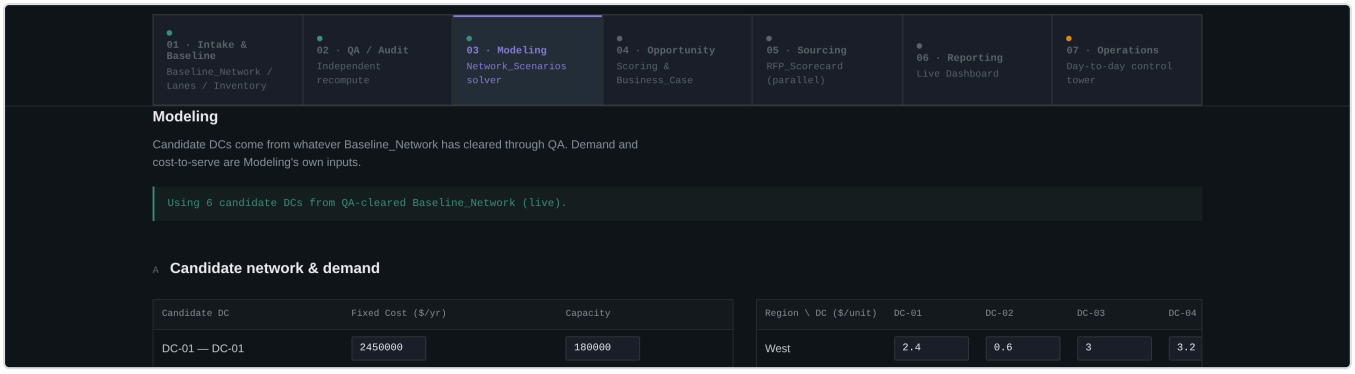
What "modeling" means here

Network design

Deciding how many warehouses you need and where, to serve your customers at the lowest cost while still delivering everything on time. Too few warehouses and deliveries get slow or miss demand; too many and you're paying rent and overhead you don't need.

Service level

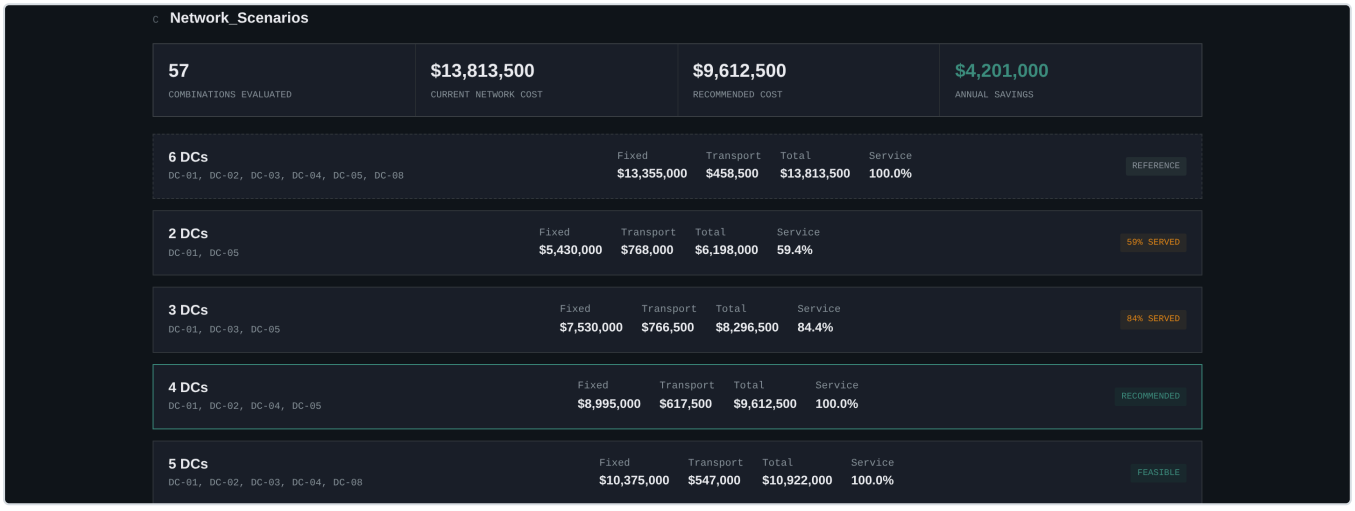
What percentage of customer demand a network can actually deliver. 100% means every order gets fulfilled; less than 100% means some demand goes unmet.



The list of possible warehouse sites (carried over automatically from Phase 1) and the cost of shipping from each one to each customer region.

What you're looking at

You don't retype your warehouse list here — it's pulled in automatically from whatever passed the checks in Phases 1 and 2. This screen adds two new pieces of information: how much customer demand exists in each region, and how expensive it is to ship from each warehouse to each region.



Every warehouse-count option the system tried, each with its own yearly cost and the percentage of demand it can deliver.

What you're looking at

Click "Run solver" and the system tries every realistic combination of warehouses — in this run, 57 different combinations — and works out the cheapest one that still delivers everything on time. Each row here is one option: how many warehouses, which specific ones, what it would cost per year, and what percentage of demand it actually covers. The option labeled **RECOMMENDED** is the system's pick: the cheapest option that still delivers 100% of demand. Notice that cheaper options exist (2 or 3 warehouses) — but they fail to deliver everything, so they're shown for comparison, not recommended.

Key action: after reviewing the options, you pick one (usually the recommended one) and click "Confirm scenario selection." That single click is what updates the savings figure used by every later phase — you don't need to tell Phase 4 or Phase 6 about it separately.

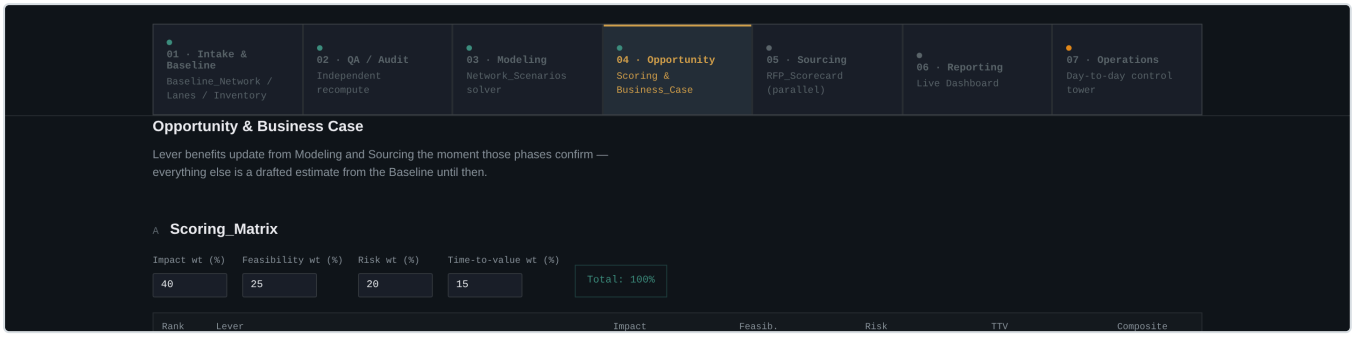
4 Opportunity & Business Case

Turning an idea for improvement into a number a finance team can approve.

Money terms used on this screen

NPV (Net Present Value)
A way of adding up money you expect to save over several years into one single number today, accounting for the fact that a dollar saved next year is worth slightly less than a dollar saved today. A positive NPV generally means a project is worth doing.

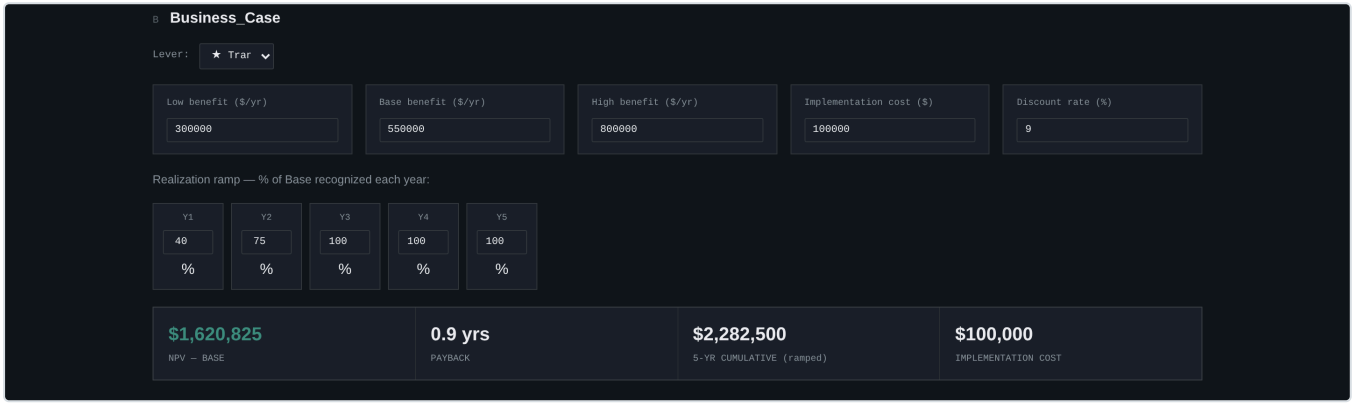
Payback period
How long it takes for the savings from a project to cover what it cost to do. A 0.9-year payback means it pays for itself in well under a year.



A short list of possible improvement projects, each scored on four criteria and ranked.

What you're looking at

Before spending money on any improvement, it helps to compare options side by side. Here, each candidate project (for example, "renegotiate our shipping rates" or "reduce excess stock") is scored on four things — how much impact it would have, how realistic it is to actually do, how risky it is, and how quickly it would pay off — and ranked by a combined score. The highest-ranked idea here was renegotiating transportation rates.



The financial case for the top-ranked idea: expected savings, when those savings arrive, and the resulting payback.

What you're looking at

Once you've picked an idea to pursue, this section builds the financial case for it: a low/likely/high estimate of yearly savings, what it costs to implement, and how quickly the benefit "ramps up" (few projects deliver 100% of their savings in year one). The system turns those inputs into the NPV and payback numbers, plus a year-by-year table so you can see exactly where the money comes from.

Key action: a finance reviewer ticks a box confirming they've checked these assumptions before this business case is considered "approved" — the same kind of sign-off used in every other phase.

5 Sourcing

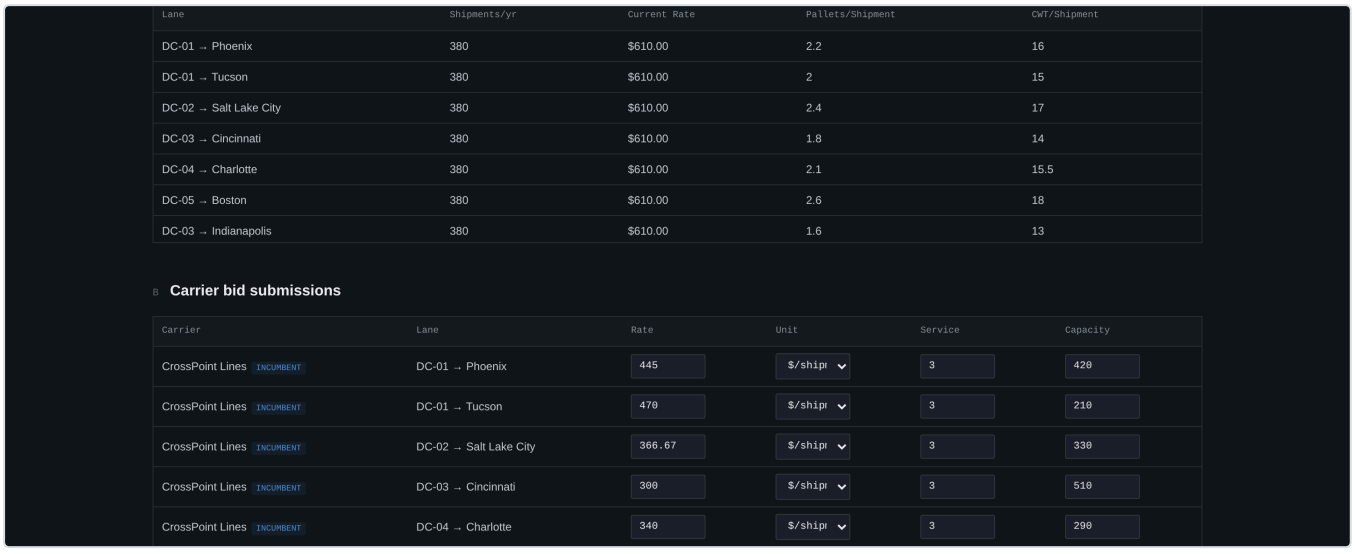
Getting competitive quotes from shipping companies and picking the best one for each route.

Terms used in this phase

RFP (Request for Proposal)
A formal invitation sent to suppliers — in this case, trucking and freight companies — asking them to quote a price for doing the work.

Carrier
A company that physically moves your goods: a trucking company, a freight line, etc. Also sometimes called a "3PL" (third-party logistics provider).

Incumbent
The carrier you're currently using on a route, before any re-quoting happens.



Lane	Shipments/yr	Current Rate	Pallets/Shipment	CWT/Shipment
DC-01 → Phoenix	380	$610.00	2.2	16
DC-01 → Tucson	380	$610.00	2	15
DC-02 → Salt Lake City	380	$610.00	2.4	17
DC-03 → Cincinnati	380	$610.00	1.8	14
DC-04 → Charlotte	380	$610.00	2.1	15.5
DC-05 → Boston	380	$610.00	2.6	18
DC-03 → Indianapolis	380	$610.00	1.6	13

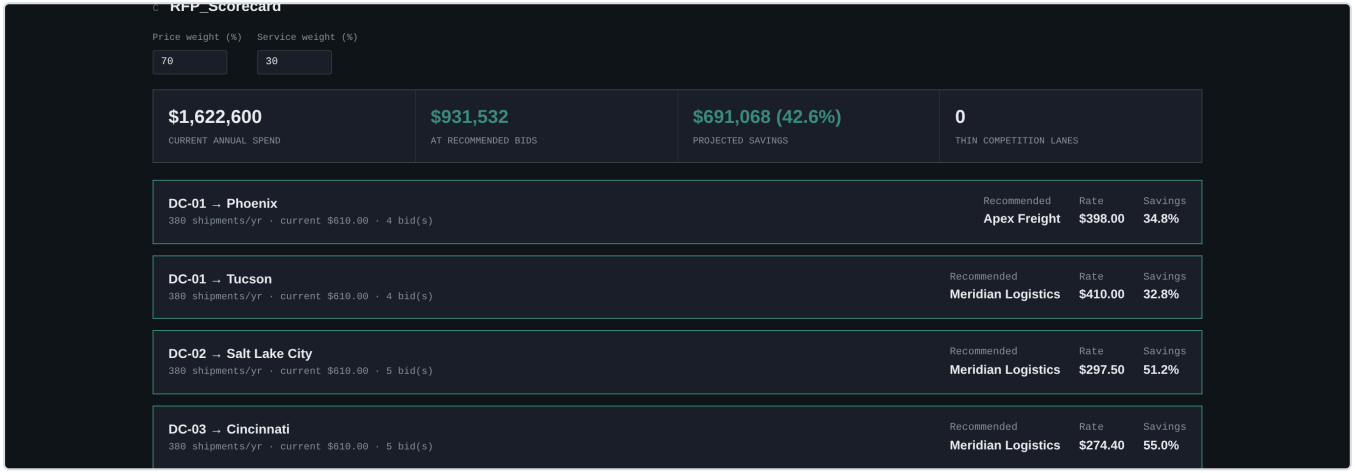
B Carrier bid submissions

Carrier	Lane	Rate	Unit	Service	Capacity
CrossPoint Lines INCUMBENT	DC-01 → Phoenix	445	$/shipr	3	420
CrossPoint Lines INCUMBENT	DC-01 → Tucson	470	$/shipr	3	210
CrossPoint Lines INCUMBENT	DC-02 → Salt Lake City	366.67	$/shipr	3	330
CrossPoint Lines INCUMBENT	DC-03 → Cincinnati	300	$/shipr	3	510
CrossPoint Lines INCUMBENT	DC-04 → Charlotte	340	$/shipr	3	290

Your shipping routes (carried over automatically from Phase 1) and the price each carrier quoted for each one.

What you're looking at

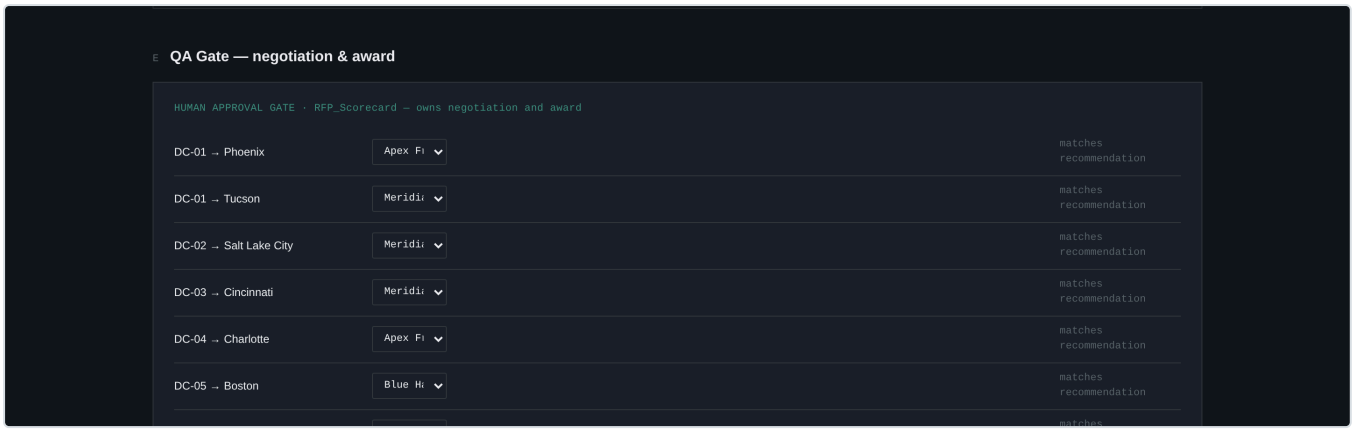
Just like Phase 1's data flows automatically into Modeling, it flows into Sourcing too — your approved shipping routes appear here ready to be quoted. Underneath, you can see the prices submitted by several carriers for each route, including your current ("incumbent") carrier, *CrossPoint Lines*.



Every route, with the system's recommended carrier, its price, and the percentage saved versus what you pay today.

What you're looking at

The system scores every quote on a blend of price and service quality (weighted 70% price / 30% service in this example — you can adjust that balance). For each route it recommends the best-value carrier and shows exactly how much cheaper that is than what you're paying now. Across every route together, this added up to a 42.6% reduction in shipping spend in this example.



Confirming which carrier wins each route.

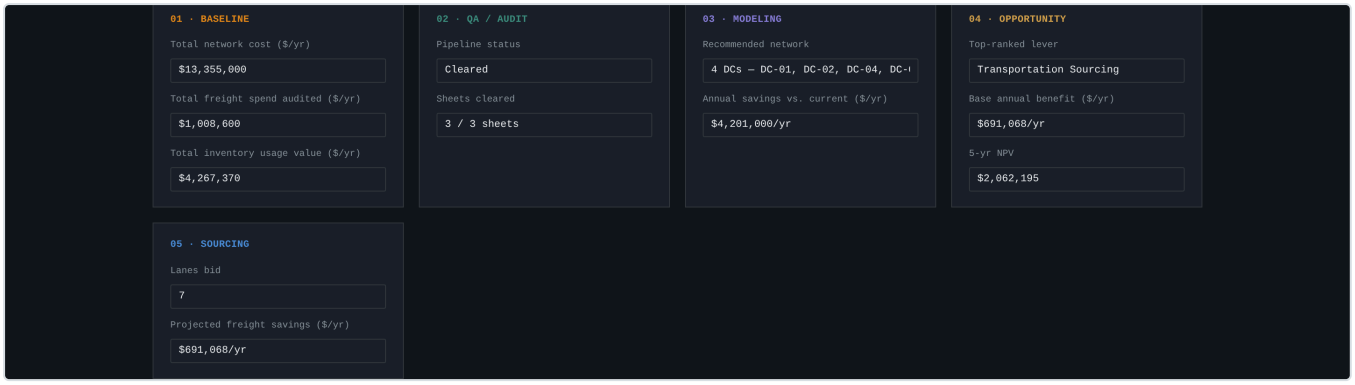
What you're looking at

This is where a human makes the final call on each route — you can accept the system's recommendation or pick a different carrier for any reason not captured in the score (a relationship, a reliability concern, etc.). Clicking "Confirm awards" locks these in as the official record of who is supposed to be carrying your freight on each route, at what price — this record is what Phase 7 later checks real shipments against.

6 Reporting

One screen that pulls everything you've confirmed so far into a single summary.

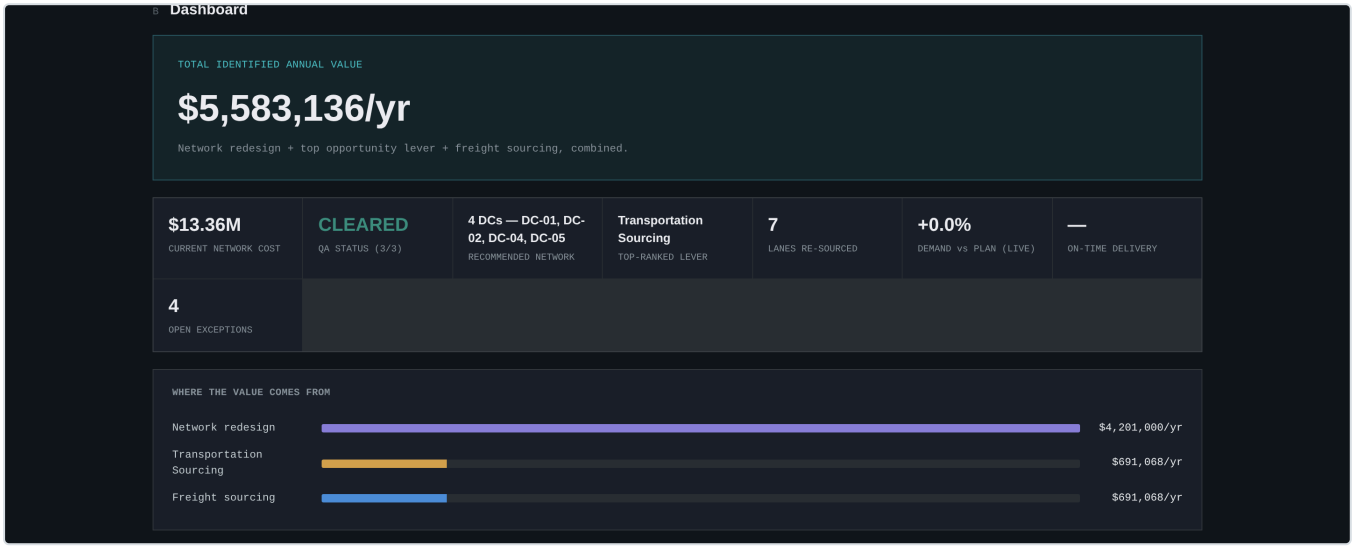
Nothing on this screen is typed in by you. Every box shown here is read automatically from whichever of the earlier phases you've completed — if you go back and change a decision in an earlier phase, this screen updates itself the next time you open it.



A summary box for each phase, pulling its key number out automatically.

What you're looking at

Five boxes, one per phase, each showing that phase's headline number: the baseline cost, whether the data audit passed, the recommended network and its savings, the top improvement idea and its financial value, and the sourcing savings. This is the fastest way to see the state of the whole project at a glance, without clicking through every tab.



A single combined dollar figure, plus a row of key status numbers for the whole program.

What you're looking at

The big number at the top adds together every confirmed savings figure into one total — this is the headline number you'd put in front of a manager or an executive. Below it, a row of smaller figures gives quick status flags: current cost, whether the audit is clear, how many issues are currently open, and so on.



A ready-to-send written summary, generated automatically from the numbers above.

What you're looking at

If you need to update a manager or a team by email or chat, you don't have to write it from scratch — this plain-text summary is generated for you from the same live numbers shown above, ready to copy and paste.

7 Operations (Day-to-Day Control Tower)

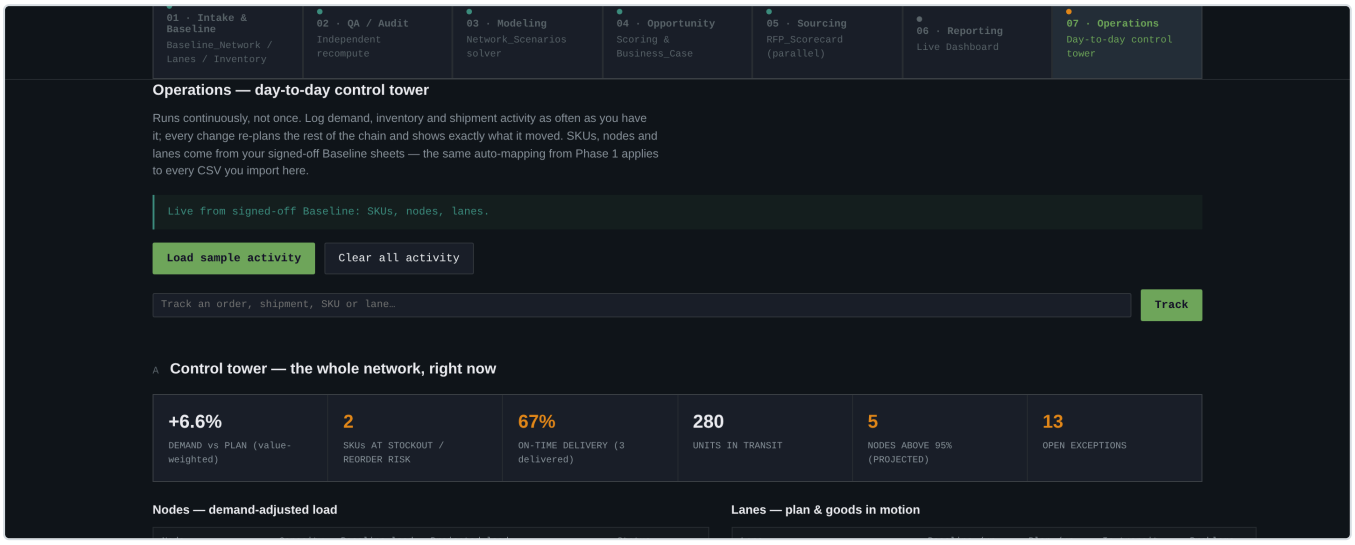
Phases 1 through 6 are a one-time (or occasional) planning exercise. Phase 7 is different — it runs continuously, watching the network every day.

New terms in this phase

Demand vs. plan
How much customers are actually ordering, compared to how much you expected them to order. Running above plan can strain your warehouses; running below plan can mean you're overstocked.

Reorder point
The stock level at which you need to place a new order, so you don't run out before the new stock arrives.

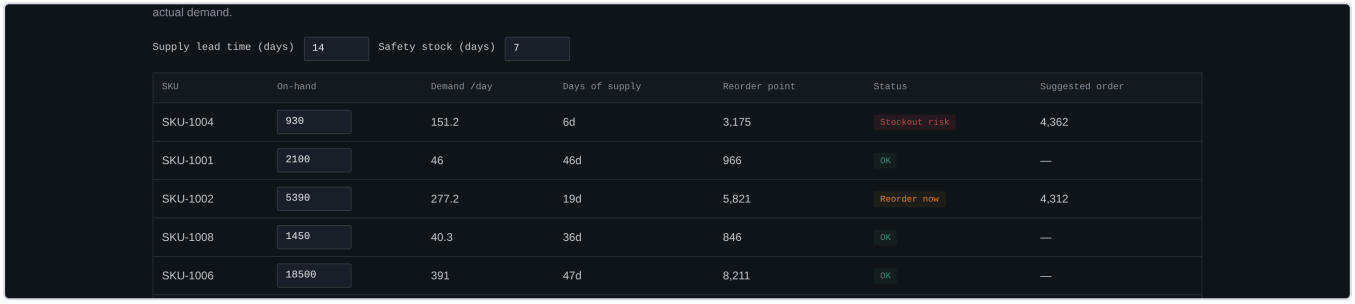
Off-contract
A shipment moving on a carrier other than the one that was actually awarded that route back in Phase 5 — worth investigating, since it may mean you're not getting the price you negotiated.



Live, network-wide status: how busy each warehouse is right now, and how each shipping route is performing against plan.

What you're looking at

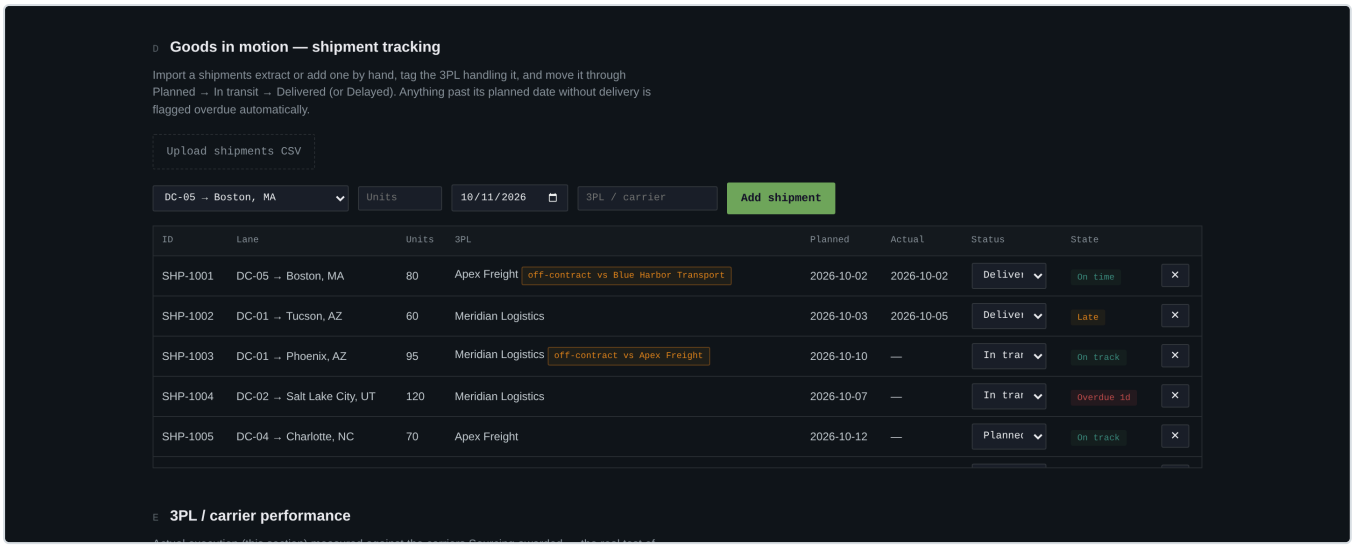
This is the "control tower" view — a live snapshot of the whole network. The left table shows each warehouse's current workload as a percentage of its capacity (anything flagged "over capacity" needs attention soon); the right table shows each shipping route's planned volume against what's actually moving through it. In this example, actual demand was running 6.6% above the original plan, which is why several warehouses show as over capacity.



Current stock level, how many days of supply that represents, and whether it's time to reorder, for each product.

What you're looking at

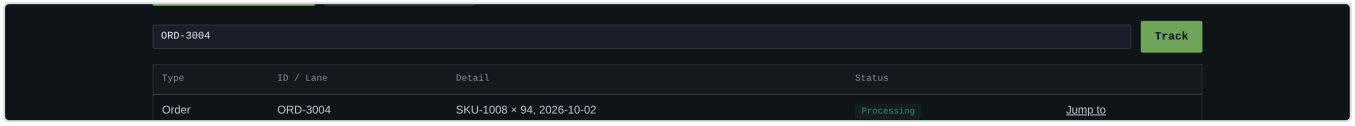
For every product (SKU), this table shows what's on hand right now, how many days that will last at current demand, and whether the system thinks it's time to place a new order (and how much to order). A product showing "Stockout risk" means it could run out before more stock arrives if nothing is done.



Every shipment currently moving, its carrier, and whether that carrier matches the one awarded back in Phase 5.

What you're looking at

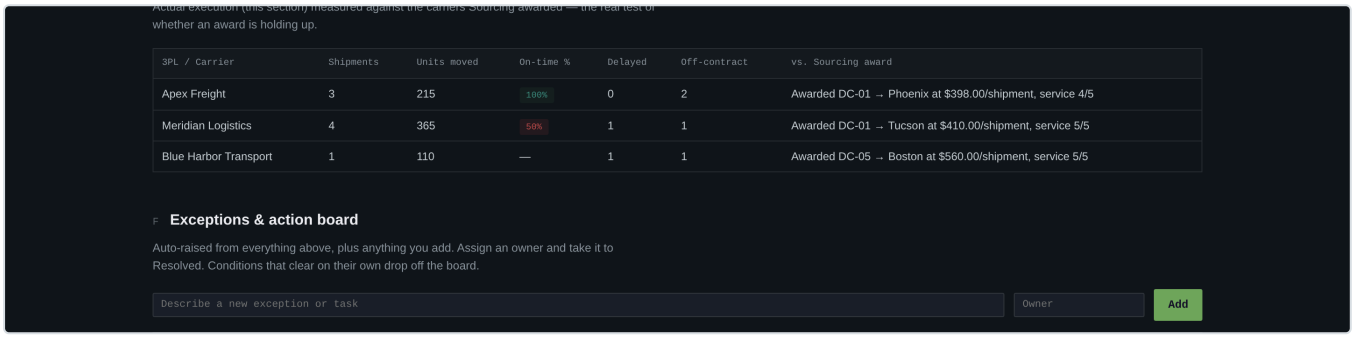
Each row is one shipment in progress: where it's going, how many units, which carrier is handling it, when it was supposed to arrive, and its current status. The orange "off-contract" tag is an automatic warning that a shipment is moving on a different carrier than the one your company actually negotiated a rate with for that route in Phase 5 — worth a quick follow-up.



Looking up one specific order by its ID to see exactly where it stands.

What you're looking at

If someone asks "where is order ORD-3004?", you don't have to dig through a spreadsheet — you type the order number into the search box and get its product, quantity, date, and current stage immediately.



How each carrier is actually performing against what was awarded, and a running list of issues that need someone's attention.

What you're looking at

The top table grades each carrier on real performance — on-time percentage, delays, and how often they've run off-contract — directly against the award they were given in Phase 5. This turns "I think that carrier has been late a lot" into an actual number you can bring to a renewal conversation. The bottom table is the system's running to-do list: every problem it noticed on its own (like a stockout risk or an over-capacity warehouse), plus anything you add by hand, each with an owner and a status you move from "Open" to "Resolved."

What to Watch For — Common Questions & Red Flags

"A few rows got flagged when I loaded my data — did I do something wrong?"

No. This is normal and expected — real-world data almost always has a few rows with a typo, a missing value, or an obviously wrong number (like a negative cost). The system is designed to set those rows aside and keep moving with the rest, rather than stopping you. Use the repair table to see exactly what's wrong with each flagged row, fix it, and feed it back in whenever you're ready.

"My GL reconciliation shows a variance — what do I do?"

A variance above the 1% tolerance usually means either your data has an error, or the accounting total you typed in doesn't match the scope of the data you loaded (for example, it includes a cost center your baseline data doesn't). Double-check both numbers before signing off — signing off with a known mismatch means every later phase will build on a baseline that doesn't match your books.

"The solver status line in Modeling says 'greedy heuristic' instead of an exact solver — is that a problem?"

No action is needed. The system always produces a usable, good recommendation. When it can reach the optional exact solver (which requires an internet connection to load), it uses that for a mathematically provable optimum; otherwise it automatically falls back to its own reliable method. Either way, the recommendation you see has already accounted for every combination the system could evaluate.

"Phase 7 shows a lot of open exceptions — is my network in trouble?"

Not necessarily. The exceptions list is meant to be comprehensive on purpose — it would rather over-flag a minor issue than let a real one slip through unnoticed. Sort by severity, assign an owner to each one, and work through them; most clear themselves once the underlying condition (a shipment arrives, stock is replenished) resolves.

"An 'off-contract' carrier tag showed up — what should I actually do?"

It means a shipment moved on a carrier different from the one awarded that route in Phase 5. That's not automatically a mistake (sometimes a backup carrier is used deliberately when the primary one is at capacity), but it's worth a quick check with whoever is managing that shipment — and if it happens repeatedly on the same route, it's worth raising with that carrier directly, since you may not be getting the rate you negotiated.

Getting more help

For questions about this guide or the system itself, contact Practical Digital Lab at **practicaldigitallab@gmail.com** or visit **https://practical-digital-lab.pages.dev**.