WiP tool

The role is responsible for allocating codes to lanes and rebalancing code distribution based on volume and capacity.

The role responsible for monitoring CPT status, trailer readiness, and coordinating trailer movement and loading priorities

Ship Clerk

Code A
Lane 1

Water spider
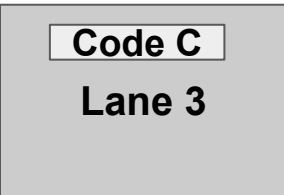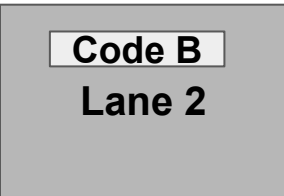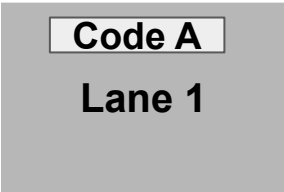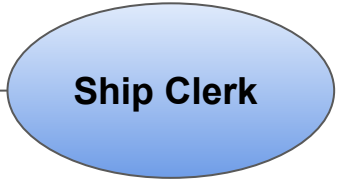
Personnel responsible for closing, scanning, and staging completed carts.

Code A
Stage A

DCM
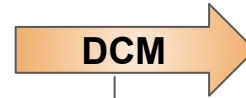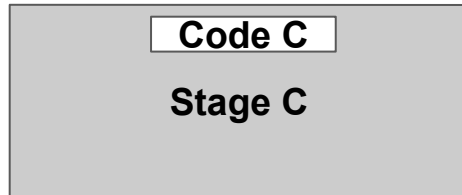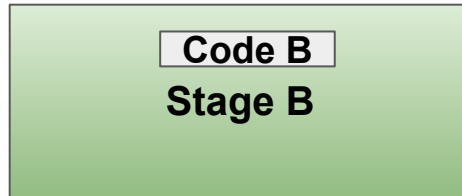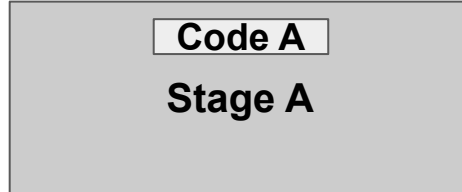
Personnel responsible for moving carts from staging to trailers.

Code A
Trailer 12

Code B
Lane 2

Code B
Stage B

Code B
Trailer 18

Code C
Lane 3

Code C
Stage C

Code C
Trailer 43
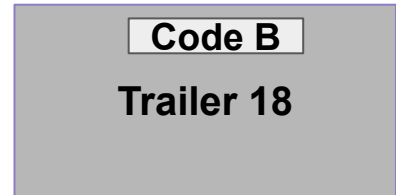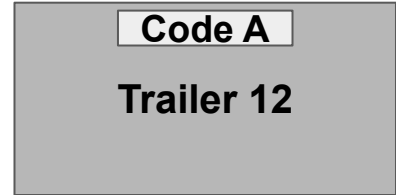
The Core Problem: Distribution & Distance Optimization

**Warehouses face a mathematical
distribution problem, not a system
problem.**
• **Multiple codes**
• **Limited lanes**
• **Limited staging areas**
• **Fixed CPT deadlines**
• **Long walking distances**
**When carts are distributed randomly, teams
lose time, miss CPTs, and create congestion.**

**Stage(Code
A,B,C)**

Code A

Code B

Code C

Random placement
No priority
High travel distance

**Trailer(Code A)
Trailer(Code B)
Trailer(Code C)**
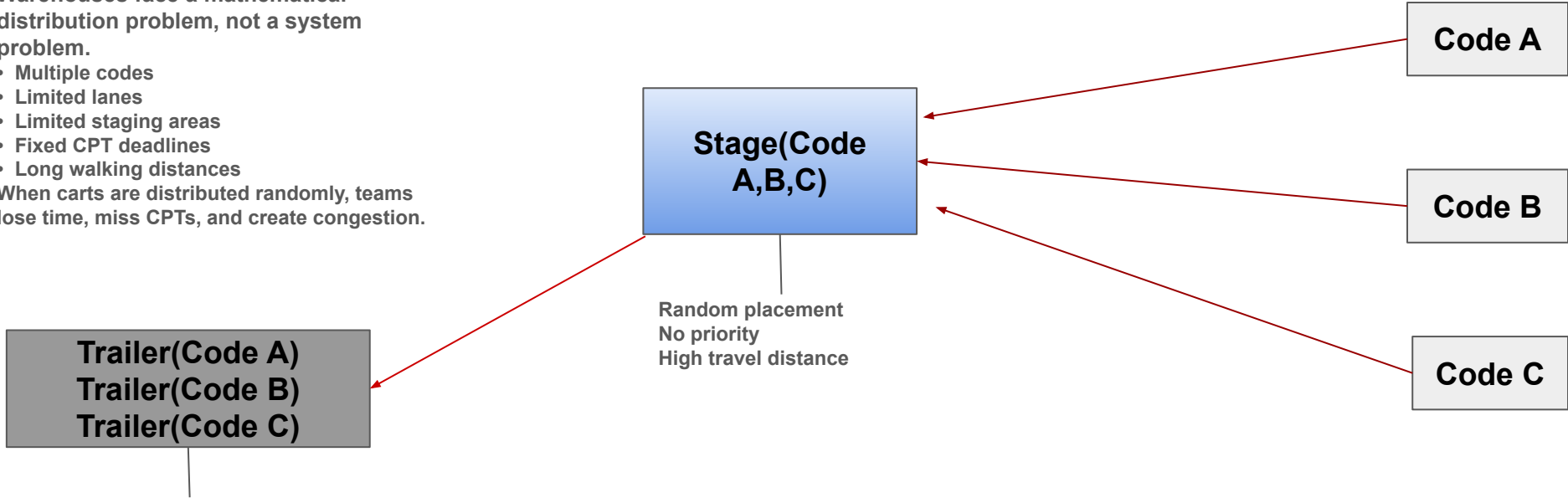
**This is a distribution optimization problem
Goal:
-Minimize distance
-Balance load across lanes
-Prioritize CPT
-Reduce unnecessary movement
Similar to bin-packing and flow optimization problems
in operations research**

ShipFlow: Rule-Based Distribution & Flow Optimization
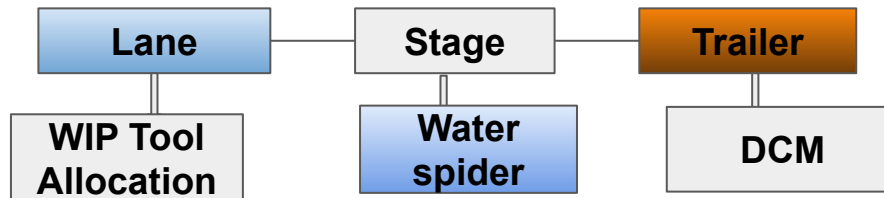
ShipFlow Core Rules

1.Codes are assigned to lanes by WIP Tool based on volume.

2.No lane exceeds its cart capacity.

3.Staging areas are filled based on distance + CPT priority.

4.Water spider stages carts close to their assigned trailer.

5.Ship Clerk monitors CPT and assigns trailers.

6.DCM moves carts strictly by CPT order.

Result
- Predictable flow
- Reduced walking distance
- CPT compliance
- Scalable across any warehouse size

ShipFlow in Practice: Numeric Example

Warehouse Snapshot
- **31 lanes**
- **61 staging areas**
- **43 trailers**
- **128 active codes**
- **Avg. 30 carts per high-volume code**

Code A Distribution
- **30 carts total**
- **Assigned to 3 lanes (10 cart's each)**
- **Staged across 3 nearby staging areas**
- **Loaded to Trailer 12 based on CPT**
This shows controlled distribution.

Without ShipFlow • Random staging
- Long walking distance
- CPT risk

With ShipFlow • Balanced lanes
- Short travel paths
- On-time loading

Lane 01 → Staging 01

Lane 02 → Staging 02

Lane 03 → Staging 03

Staging 01 → Trailer 12

Staging 02 → Trailer 12

Staging 03 → Trailer 12
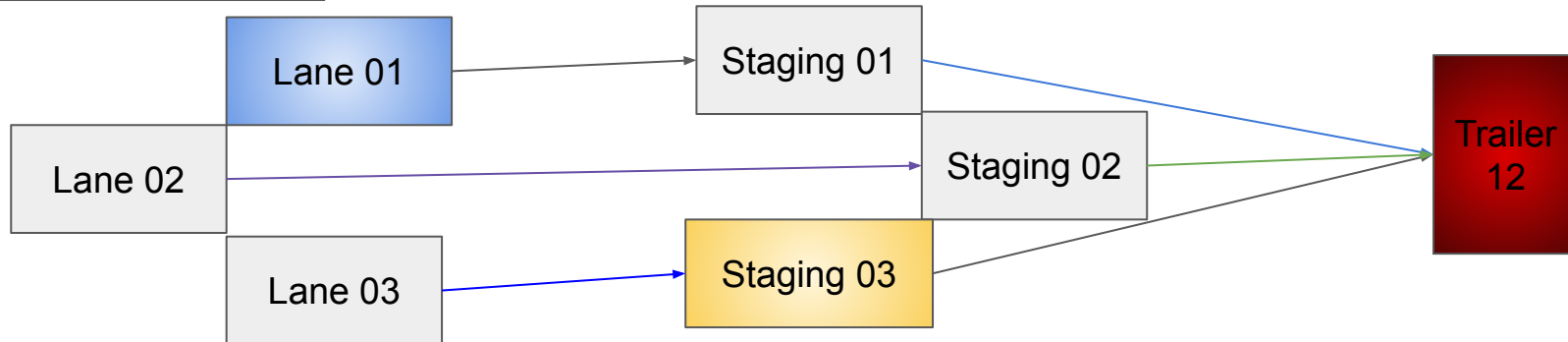
ShipFlow: Operational & Financial Impact

Time Saved per Shift
• Avg. walking distance reduced by 25–40%
• CPT compliance improved → fewer penalties
• Fewer manual relocations → staff time saved

Operational Savings
• Less overtime → ~$500–$1,000/week saved
• Fewer misplaced carts → avoids delays
• Scalable to any warehouse → ROI grows with size

Lane

Staging

Trailer

Lane

Staging

Trailer

After ShipFlow: Balanced lanes, short travel, on-time loading
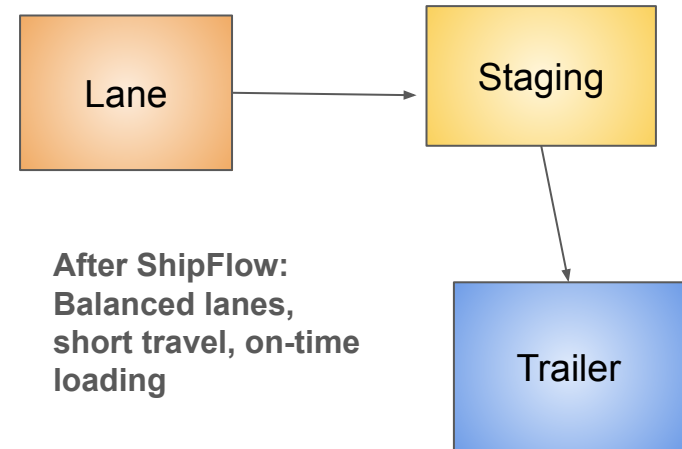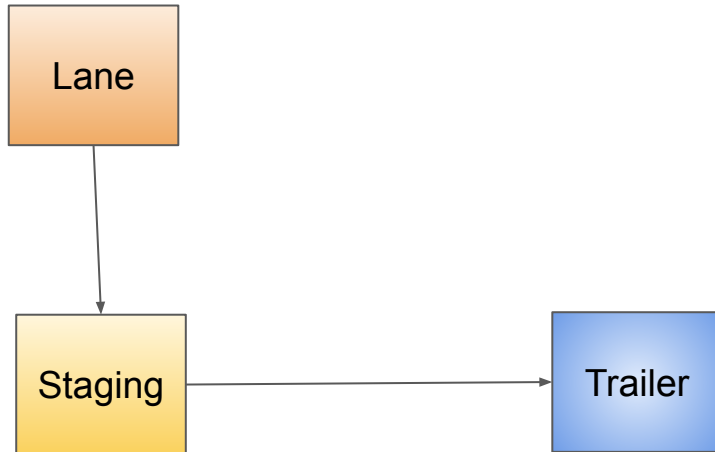
How ShipFlow Works in a Real Warehouse

WIP TOOL
- Sends boxes to correct lane
- Follows lane-code rules
- Prevents random placement

Water spider
- Moves carts by code
- Shortest path routing
- No CPT guessing

Ship Clerk
- Tracks CPT priority
- Directs DCM which cart first
- Controls trailer flow

Example Ruleset
- Lane A → Codes A1 / A2
- Max 2 codes per lane
- CPT < 30 min = Priority 1
- Distance per move reduced by 35%

Bottom — Outcome

Result:

✔ On-time CPT

✔ Less walking

✔ Clear ownership

✔ No system changes required

Why ShipFlow Works When Other Systems Don't

Existing Systems Do This:
- Show **CPT** times only
- Show where carts are, not where they should go
- Depend on people's memory
- React after problems happen

Result:
- Disorganization
- Extra walking
- Missed CPT
- Stress on Ship Clerks & DCM

ShipFlow Does This:
- Assigns clear lane rules
- Limits codes per lane
- Defines who moves what
- Creates predictable flow
- Works with existing tools (no rebuild)

Result:
- Organized staging
- Faster decisions
- Less labor waste
- On-time trailers

ShipFlow is not a new system.It is an operational organizer that makes existing systems work better.

Operational Impact of ShipFlow

Walking Distance ↓
↓ 20–35% less walking
- Clear lane assignments
- No searching for carts
- Fewer re-locations

CPT Misses ↓
↓ 25–50% CPT risk
- Staging rules by CPT
- Ship Clerk visibility
- DCM decision clarity

Labor Efficiency ↑
**↑ 10–20% labor efficiency**
- Water spiders move with purpose
- WIP Tool rules reduce rework
- Less congestion

Stress & Errors ↓
↓ Human error & stress
- Fewer last-minute calls
- Clear ownership
- Predictable flow

These gains come from organization not new software, hardware, or headcount.

One Shift With ShipFlow (Real Operations Example)

Inbound / Lane Fill
Lane 12
- Codes: A + B
- Capacity: 8 cart spots per code
- WIP Tool assigns codes based on volume

Water Spider Action
- Water Spider
- Closes full carts
- Scans to designated staging area
- No free-for-all staging

Staging Area Logic
Staging Area 22
- Reserved for Code A
- CPT priority visible
- Max 14 carts

Ship Clerk Control
- Sees CPT dashboard
- Assigns trailer position
- Notifies DCM

DCM + TDR Execution
Trailer 7
- Code A loaded first
- Zero searching
- On-time departure

Every role knows where to act: no wasted motion, no guessing.

Rushed CPT's

Staging(**ABC**)

Code A
Code B
Code C

Code A
Code B
Code C

Staging(**ABC**)

Trailer Code **A**

Trailer Code **A**

DCM

Staging(**ABC**)

Ship Clerk

Trailer Code **B**

System exists, organization does not

Code A
Code B
Code C

Staging(**AB**)

Trailer Code **A**

Staging(**ABC**)

Trailer Code **B**

Code A
Code B
Code C

Staging(**BC**)

Trailer Code **C**
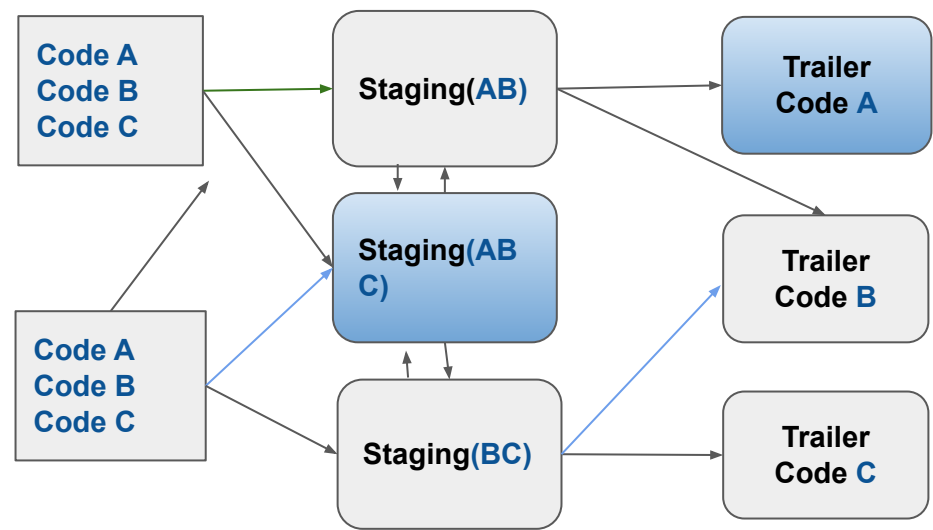
Same system, better rules

Measurable Impact With ShipFlow

👣 **Walking Distance**
Impact: ↓ 30–50% per shift
Organized staging eliminates search paths

⏱️ **CPT Performance**
Impact: ↑ On-time CPT rate
Priority carts staged together

🚚 **Trailer Load Time**
Impact: ↓ Load time per trailer
Continuous loading without interruption

🛡️ **Safety & Associate Fatigue**
Impact: ↓ Physical strain & congestion
Shorter routes, clearer movement
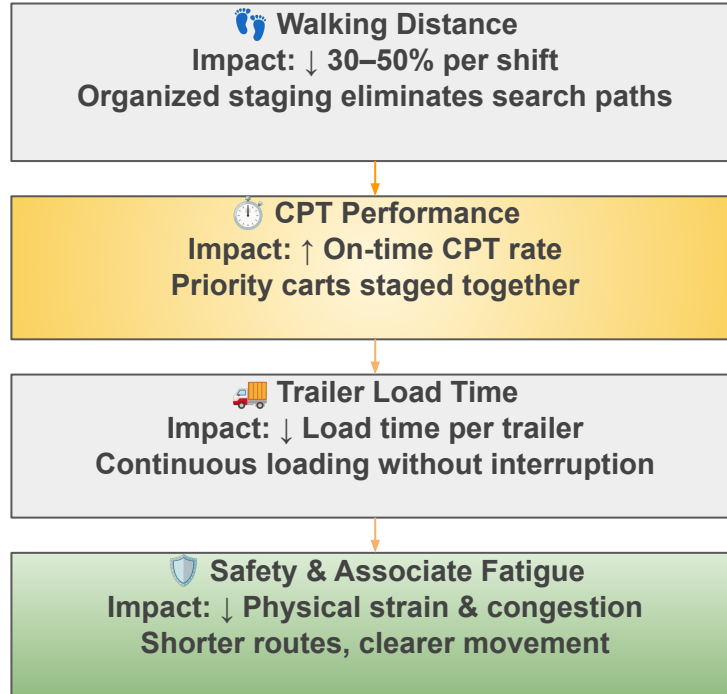
Small organizational rules create measurable operational gains.

Why ShipFlow Works

Distribution Optimization

- **Finite lanes**
- **Finite staging capacity**
- **Known CPT deadlines**
- **Distance minimization**

Organize flow → reduce chaos

Role Clarity

- **WIP Tool assigns**
- **Water Spider stages**
- **Ship Clerk controls**
- **DCM executes**

Clear roles → faster decisions

No New Software Required

- **Works with existing CPT systems**
- **Uses current scanners**
- **Respects current roles**

Rules, not replacements

ShipFlow is an operational rulebook,not a tool, not an app.

Who ShipFlow Is Designed For

Warehouses
For Operations Teams

- Ship Dock
- Sort Centers
- Fulfillment Centers
- Cross-dock operations

Any site with carts, staging, and CPTs

Leaders
For Management

- Ops Managers
- Process Assistants
- Continuous Improvement teams
- Safety & Efficiency leaders

Visibility without micromanagement

Frontline Roles
For Associates

- Less walking
- Clear expectations
- Safer movement
- Predictable workflow

Designed for real people, not dashboards

If your dock has carts, ShipFlow fits.

How to Pilot ShipFlow in Any Warehouse

Map the Floor
What to do
- Count active lanes
- Count staging areas
- Identify trailer positions

No layout changes required

Assign Rules
What to do
- Limit codes per lane (1–2 max)
- Assign staging areas by code
- Define CPT priority order

Rules replace guesswork

Train Roles
What to do
- WIP Tool: allocation rules
- Water Spider: staging discipline
- Ship Clerk: flow control
- DCM: execution only

30-minute briefing is enough

Measure Impact
Track
- Walk distance
- CPT hit rate
- Trailer load time
- Associate fatigue

Compare before vs after

ShipFlow can be piloted in one shift, one dock, one team.

Founder & Vision

Melat Mekonnen Founder of ShipFlow

Bullet points:
- Operations & Ship Dock experience
- Amazon Process Improvement background
- Built from real warehouse pain points
- Designed with frontline workers in mind

Built on the floor, not in theory

The ShipFlow Vision

Bullet points:
- Standardize dock organization
- Reduce wasted movement
- Improve CPT reliability
- Make warehouses calmer and safer

Simple rules. Scalable impact.

ShipFlow is open, practical, and built for real operations.