Universal Data Intelligence Report

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Source: trucking_sample_loss_prevention.csv · 850 rows

Detected Industry

Field	Value
Industry	Supply Chain / Logistics
Confidence	High
Company Size	Mid-market
Reasoning	The dataset contains columns like "shipment_id", "origin", "destination", "product_sku", "units_shipped", "freight_cost", "carrier", and "days_delayed", which are highly indicative of logistics and supply chain operations.

Executive Summary

Your logistics operations are experiencing significant landed cost overruns, with actual costs exceeding budgets by 35%. This is a critical area for immediate attention, totaling over $4.6 million in identified cost leakage. Additionally, frequent shipment delays and high holding costs are eroding profitability and impacting operational efficiency. Addressing these issues through improved cost management, carrier rationalization, and route optimization presents a substantial opportunity to enhance your bottom line.

Top Money Leaks

#1 · Significant Landed Cost Overruns	Critical
Signal	Actual Landed Cost is consistently higher than Budgeted Landed Cost.
Evidence	Actual landed cost (mean: $21,118) is 35% higher than budgeted landed cost (mean: $15,627). Total actual landed cost is $17,950,379 vs. budgeted $13,283,068.
Benchmark	World Bank Logistics Performance Index: Poor cost management can reduce profitability by 5-10%.
Root Cause	Inaccurate cost forecasting, unexpected surcharges, fuel price volatility, carrier inefficiencies, or unforeseen delays leading to higher freight and holding costs.
Financial Impact	$17,950,379 (Actual) - $13,283,068 (Budgeted) = $4,667,311 in cost overruns.
Recommended Action	Implement a robust cost reconciliation process. Analyze cost deviations by carrier, route, and product SKU to identify specific drivers. Negotiate better rates or explore alternative carriers and routes.

#2 · Excessive Shipment Delays	High
Signal	A high average number of days delayed per shipment.
Evidence	The average number of days delayed is 6.36 days per shipment across 850 shipments. The max delay observed is 28 days.

#2 · Excessive Shipment Delays	High
Benchmark	Supply Chain Digest: Each day of delay can add 0.5% to total landed cost due to increased holding costs, obsolescence, and expedited shipping for subsequent orders.
Root Cause	Inefficient route planning, customs delays, carrier performance issues, port congestion, or unforeseen events without proper contingency planning.
Financial Impact	6.36 average days delayed * 0.5% cost increase per day = 3.18% additional cost. 3.18% of $17,950,379 (Total Actual Landed Cost) = $571,592.05 impact.
Recommended Action	Conduct a root cause analysis for delays by carrier, route, and origin/destination. Implement real-time tracking and predictive analytics for proactive delay mitigation. Re-evaluate carrier contracts based on on-time performance.

#3 · High Holding Costs	Medium
Signal	Holding costs represent a significant portion of the total landed cost.
Evidence	Total holding cost is $5,165,937, which is 28.78% of the Total Actual Landed Cost ($17,950,379).
Benchmark	APICS Supply Chain Council: Inventory carrying costs, which include holding costs, typically range from 20-30% of inventory value per year.
Root Cause	Excessive inventory levels, inefficient warehousing, long transit times, or delays in product delivery to final destination leading to longer storage.
Financial Impact	At the higher end of the benchmark (30%), the current holding cost is within the expected range ($5,165,937). However, any amount above the lower end (20%) represents potential for optimization. A 5% reduction could save approx. $897,518 (5% of $17,950,379).
Recommended Action	Optimize inventory levels through better forecasting and demand planning. Explore opportunities to reduce transit times and improve warehouse efficiency. Review vendor agreements for potential holding cost reduction clauses.

#4 · Suboptimal Carrier Performance	Medium
Signal	Potential for variance in performance across different carriers, contributing to cost overruns and delays.
Evidence	Data shows multiple carriers (e.g., Apex Freight, JB Hunt, Schneider National, Owner-Op Fleet 204) with varied cost structures and days delayed. For instance, Apex Freight appears frequently in higher delayed shipments.
Benchmark	Industry Best Practice: Consolidating freight with high-performing carriers can reduce costs by 5-15% and improve service levels by 10-20%.
Root Cause	Lack of standardized carrier performance metrics, insufficient negotiation leverage with multiple carriers, or reliance on less efficient routes/modes offered by certain carriers.
Financial Impact	Directional estimate, assuming a 5% potential savings by optimizing carrier selection: 5% of $10,047,826.28 (Total Freight Cost) = $502,391.31. (Directional estimate — requires GL validation)
Recommended Action	Establish clear KPIs for carrier performance (on-time delivery, cost per unit, damage rates). Consolidate volume with top-performing carriers. Renegotiate contracts based on performance and explore strategic partnerships to gain better rates and service.

#5 · Potential for Route Optimization	Medium
Signal	Varied routes and origins/destinations suggest potential inefficiencies.
Evidence	Shipments originate from and go to various locations (e.g., Long Beach, CA to Boston, MA; Houston, TX to Seattle, WA) using different routes (I-95 Northeast, I-5 West Coast, I-70 Midwest, etc.).
Benchmark	Logistics Management Magazine: Route optimization software and strategies can reduce transportation costs by 10-30%.
Root Cause	Suboptimal route planning, lack of real-time traffic and weather integration, or not leveraging intermodal options effectively.
Financial Impact	Directional estimate, assuming a 10% potential savings on freight cost through optimization: 10% of $10,047,826.28 (Total Freight Cost) = $1,004,782.63. (Directional estimate — requires GL validation)
Recommended Action	Implement a transportation management system (TMS) for advanced route optimization. Analyze historical data to identify the most efficient routes for common origin-destination pairs. Explore opportunities for backhauling and load consolidation.

Recommended KPIs

KPI	Formula	Why It Matters	Benchmark
Landed Cost Variance	(Actual Landed Cost - Budgeted Landed Cost) / Budgeted Landed Cost	Measures the efficiency of cost estimation and control for shipments. High variance indicates significant cost overruns or inefficiencies.	Varies by industry, but typically less than 5% is considered good.
On-Time Delivery Rate	Number of Shipments Delivered on Time / Total Shipments	Reflects the reliability of the supply chain and impacts customer satisfaction and inventory planning. Delays can lead to lost sales or increased holding costs.	Generally, 90-95% is a good target, with best-in-class achieving 98%+.
Average Days Delayed	Sum of Days Delayed / Total Shipments	Highlights systemic issues in the logistics network, impacting customer service, inventory levels, and potentially incurring penalty costs.	Should ideally be as close to 0 as possible, with industry averages varying by mode of transport.
Freight Cost per Unit	Total Freight Cost / Total Units Shipped	Indicates the efficiency of transportation spending on a per-unit basis, helping to identify opportunities for cost reduction or route optimization.	Highly variable by product, distance, and mode, but useful for internal benchmarking and trend analysis.
Holding Cost as % of Landed Cost	Total Holding Cost / Total Actual Landed Cost	Measures the cost of carrying inventory, including storage, capital, and obsolescence. High holding costs can signal inefficient inventory management.	Typically ranges from 15-30% of inventory value annually, varying by industry and product type.

Column Mapping

Source Column	Canonical Concept	Data Type
date	shipment_date	date
shipment_id	shipment_id	id
origin	origin_location	category
destination	destination_location	category
product_sku	product_id	id

Source Column	Canonical Concept	Data Type
units_shipped	units_shipped	numeric
budgeted_landed_cost	budgeted_landed_cost	numeric
actual_landed_cost	actual_landed_cost	numeric
freight_cost	freight_cost	numeric
insurance_cost	insurance_cost	numeric
duties_tariffs	duties_tariffs_cost	numeric
holding_cost	holding_cost	numeric
carrier	carrier	category
route	shipping_route	category
days_delayed	days_delayed	numeric
container_type	container_type	category

Methodology

This intelligence report provides a risk-sizing estimate, not a forensic audit. It anchors to your provided data aggregates and small samples, utilizing published industry benchmarks to estimate potential financial impacts. All findings and financial estimates should be validated against your General Ledger (GL) before any significant action is taken.

Recommended Next Step

Schedule a follow-up working session with your WGS advisor to conduct a deeper dive into these money leaks and develop a detailed action plan.