

Logistics Operations Health Assessment Framework

To benchmark and improve operations at each hierarchical level (Zone, Region, City, Branch), we define objective, quantitative questions grouped into weighted **categories**. Drawing on industry scorecard practices[1][2], we propose categories such as **Operational Efficiency/Throughput** (e.g. on-time delivery, lead time)[2][3], **Quality/Accuracy** (e.g. order accuracy, inventory accuracy)[2][4], **Safety & Compliance** (e.g. audit pass rates, incident rates)[1], **Customer Service** (e.g. satisfaction scores, SLA compliance)[5], and **Financial Performance** (e.g. cost per order, profit margin). Each category is assigned a weight (summing to 100%), and each question yields a numeric measure that is converted to a 0–100 score by a formula. For example, logistics KPIs like *trailer utilization* are computed as (used capacity/total capacity)×100[6]. We normalize each metric by comparing to a target or baseline (e.g. (Actual/Target)*100 for “higher is better” metrics, or (Target/Actual)*100 for “lower is better”), capping at 100. The overall health score is then the weighted average of all question scores[7]. Below we list the 50 questions and scoring rules for each hierarchy level (to be answered monthly by managers), along with category weights. This structure allows internal benchmarking and performance reviews across the organization.

1) Zone-Level Assessment

Proposed categories (each weight 20%):

1. **Operational Efficiency (20%)** – Network throughput metrics (e.g. on-time delivery, equipment utilization, inventory turns)[2][3].
2. **Compliance & Safety (20%)** – Regulatory and safety metrics (audit pass rates, incident rates, training compliance)[1].
3. **Strategic Initiatives (20%)** – High-level project and capacity metrics (strategic project on-time rate, forecast accuracy, ROI on initiatives).
4. **Customer Service (20%)** – Client-focused metrics (customer satisfaction, fill rates, complaint resolution).
5. **Financial Performance (20%)** – Cost and profitability metrics (cost per order, cost ratios, margins).

Q. No.	Category (Wt%)	Q. Wt (%)	Question	Score Formula
1	Operational Efficiency (20%)	2%	On-time delivery rate (%) across the zone this month	Score = Actual_on_time_%
2	Operational Efficiency (20%)	2%	Perfect order rate (%) – deliveries complete and undamaged	Score = Actual_perfect_order_%
3	Operational Efficiency (20%)	2%	Avg order lead time (hrs; lower is better)	Score = (Target_lead_time / Actual_lead_time) * 100
4	Operational Efficiency (20%)	2%	Fleet utilization rate (%) (vehicles used vs available)	Score = Actual_fleet_util_%
5	Operational Efficiency (20%)	2%	Trailer utilization rate (%) (volume loaded vs capacity)	Score = Actual_trailer_util_%
6	Operational Efficiency (20%)	2%	Order accuracy rate (%) (orders with correct items)	Score = Actual_order_accuracy_%

Q. No.	Category (Wt%)	Q. Wt (%)	Question	Score Formula
7	Operational Efficiency (20%)	2%	Damage-free shipment rate (%) (no cargo damage)	Score = Actual_damage_free_%
8	Operational Efficiency (20%)	2%	Avg handling time per order (hrs; lower is better)	Score = (Target_handling_time / Actual_handling_time) * 100
9	Operational Efficiency (20%)	2%	Inventory turnover rate (times per month)	Score = (Actual_turnover / Target_turnover) * 100
10	Operational Efficiency (20%)	2%	Facility uptime (%) (percent of time operational)	Score = Actual_uptime_%
11	Compliance & Safety (20%)	2%	Regulatory audit pass rate (%)	Score = Actual_regulatory_audit_pass_%
12	Compliance & Safety (20%)	2%	Safety certification compliance rate (%)	Score = Actual_safety_cert_compliance_%
13	Compliance & Safety (20%)	2%	Safety training completion rate (%) this month	Score = Actual_training_completion_%
14	Compliance & Safety (20%)	2%	Scheduled maintenance completion rate (%)	Score = (Completed_maintenance / Planned_maintenance) * 100
15	Compliance & Safety (20%)	2%	Vehicle inspection compliance (%)	Score = (Completed_inspections / Scheduled_inspections) * 100
16	Compliance & Safety (20%)	2%	Product quality compliance rate (%) (within specs)	Score = Actual_product_quality_compliance_%
17	Compliance & Safety (20%)	2%	Workplace accident rate (per 1000 employees; lower is better)	Score = (Target_accident_rate / Actual_accident_rate) * 100
18	Compliance & Safety (20%)	2%	OSHA incident rate (per 100 employees; lower is better)	Score = (Target_OSHA_rate / Actual_OSHA_rate) * 100
19	Compliance & Safety (20%)	2%	Branches with zero compliance violations (%)	Score = Actual_zero_violation_branches_%
20	Compliance & Safety (20%)	2%	Audit findings closure rate (%) (finding resolved on time)	Score = (Closed_findings / Open_findings) * 100
21	Strategic Initiatives (20%)	2%	Strategic project completion rate (%) (on schedule)	Score = Actual_strategic_completion_%
22	Strategic Initiatives (20%)	2%	Forecast accuracy (%) (vs annual plan)	Score = Actual_forecast_accuracy_%
23	Strategic Initiatives (20%)	2%	Strategic budget adherence rate (%)	Score = Actual_budget_adherence_%
24	Strategic Initiatives (20%)	2%	Avg time to implement new service (days; lower is better)	Score = (Target_implementation_time / Actual_implementation_time) * 100
25	Strategic Initiatives (20%)	2%	System uptime (%) (corporate systems)	Score = Actual_system_uptime_%
26	Strategic Initiatives (20%)	2%	Employee turnover rate (%) (lower is better)	Score = (Target_turnover_rate / Actual_turnover_rate) * 100
27	Strategic Initiatives (20%)	2%	Annual network capacity growth (%) (target vs actual)	Score = (Actual_capacity_growth / Target_capacity_growth) * 100
28	Strategic Initiatives (20%)	2%	New route launch rate (%) (vs plan)	Score = (Actual_new_routes / Planned_new_routes) * 100
29	Strategic Initiatives (20%)	2%	IT project completion rate (%) (planned vs done)	Score = (Completed_IT_projects / Planned_IT_projects) * 100
30	Strategic Initiatives (20%)	2%	ROI on strategic initiatives (%) (achieved vs planned)	Score = (Actual_ROI / Planned_ROI) * 100
31	Customer Service (20%)	2%	Customer satisfaction score (%) (survey)	Score = Actual_cust_sat_score_%
32	Customer Service (20%)	2%	Customer on-time delivery rate (%)	Score = Actual_customer_on_time_%
33	Customer Service (20%)	2%	Order fill rate (%) (orders delivered in full)	Score = Actual_order_fill_%
34	Customer Service (20%)	2%	Avg complaint resolution time (days; lower is better)	Score = (Target_complaint_resolution_time / Actual_complaint_resolution_time) * 100
35	Customer Service (20%)	2%	Annual customer retention rate (%)	Score = Actual_customer_retention_%
36	Customer Service (20%)	2%	Invoice processing accuracy (%)	Score = Actual_invoice_accuracy_%
37	Customer Service (20%)	2%	SLA compliance rate (%) (contracts met)	Score = Actual_SLA_compliance_%
38	Customer Service (20%)	2%	Avg inquiry response time (hrs; lower is better)	Score = (Target_response_time / Actual_response_time) * 100
39	Customer Service (20%)	2%	Customer complaint rate (%) (lower is better)	Score = (Target_complaint_rate / Actual_complaint_rate) * 100

Q. No.	Category (Wt%)	Q. Wt (%)	Question	Score Formula
40	Customer Service (20%)	2%	Net Promoter Score (%)	Score = Actual_NPS_ %
41	Financial Performance (20%)	2%	Avg cost per order (USD)	Score = (Budgeted_cost_per_order / Actual_cost_per_order) * 100
42	Financial Performance (20%)	2%	Transportation cost (% of revenue)	Score = (Target_transport_cost_pct / Actual_transport_cost_pct) * 100
43	Financial Performance (20%)	2%	Inventory carrying cost (% of value)	Score = (Target_inventory_cost_pct / Actual_inventory_cost_pct) * 100
44	Financial Performance (20%)	2%	Budget variance (%) (under/over budget)	Score = (Budgeted_expense / Actual_expense) * 100
45	Financial Performance (20%)	2%	Profit margin (%)	Score = (Actual_profit_margin / Target_profit_margin) * 100
46	Financial Performance (20%)	2%	Return on assets (%)	Score = (Actual_ROA / Target_ROA) * 100
47	Financial Performance (20%)	2%	Fuel efficiency (miles/gallon)	Score = (Actual_fuel_efficiency / Target_fuel_efficiency) * 100
48	Financial Performance (20%)	2%	Accounts receivable turnover	Score = (Actual_AR_turnover / Target_AR_turnover) * 100
49	Financial Performance (20%)	2%	Working capital turnover	Score = (Actual_WC_turnover / Target_WC_turnover) * 100
50	Financial Performance (20%)	2%	Overhead cost per branch (USD)	Score = (Budgeted_overhead / Actual_overhead) * 100

2) Region-Level Assessment

At the **Region** level (overseeing multiple cities), we focus on mid-tier operational metrics. Categories and weights include:

- Transportation & Distribution (20%)** – e.g. regional on-time shipment rate, average transit time, vehicle utilization.
- Warehouse / Inventory (20%)** – e.g. distribution center inventory accuracy, order cycle time.
- Process Efficiency (20%)** – e.g. shipments per worker, operational cost per unit.
- Safety & Compliance (20%)** – e.g. safety incident rates in the region, audit compliance.
- Customer Service (20%)** – e.g. local customer satisfaction, order fill rates.

Q. No.	Category (Wt%)	Q. Wt (%)	Question	Score Formula
1	Transportation (20%)	2%	On-time shipment rate (%) for regional deliveries	Score = Actual_on_time_ %
2	Transportation (20%)	2%	Average transit time (hours; lower is better)	Score = (Target_transit_time / Actual_transit_time) * 100
3	Transportation (20%)	2%	Truck turnaround rate (min at facility; lower is better)	Score = (Target_turnaround_time / Actual_turnaround_time) * 100
4	Transportation (20%)	2%	Fleet utilization (%) (regional vehicle usage)	Score = Actual_fleet_util_ %
5	Transportation (20%)	2%	Freight cost per shipment (USD; lower is better)	Score = (Target_cost_per_shipment / Actual_cost_per_shipment) * 100
6	Transportation (20%)	2%	Transportation cost (% of regional revenue)	Score = (Target_transport_cost_pct / Actual_transport_cost_pct) * 100
7	Transportation (20%)	2%	Percentage of regional shipments with accurate billing	Score = Actual_freight_bill_accuracy_ %
8	Transportation (20%)	2%	Average dwell time at regional hub (hrs; lower is better)	Score = (Target_dwell_time / Actual_dwell_time) * 100
9	Transportation (20%)	2%	Trailer load fill rate (%)	Score = Actual_trailer_load_pct
10	Transportation (20%)	2%	Fuel cost per mile (USD; lower is better)	Score = (Target_fuel_cost / Actual_fuel_cost) * 100

Q. No.	Category (Wt%)	Q. Wt (%)	Question	Score Formula
11	Warehouse (20%)	2%	Inventory accuracy (%) at regional DCs	Score = Actual_inventory_accuracy_%
12	Warehouse (20%)	2%	Order picking accuracy (%)	Score = Actual_order_picking_accuracy_%
13	Warehouse (20%)	2%	Average warehouse order cycle time (hrs; lower is better)	Score = (Target_cycle_time / Actual_cycle_time) * 100
14	Warehouse (20%)	2%	On-time warehouse dispatch rate (%)	Score = Actual_dispatch_on_time_%
15	Warehouse (20%)	2%	Dock-to-stock cycle time (hrs; lower is better)	Score = (Target_dock_to_stock / Actual_dock_to_stock) * 100
16	Warehouse (20%)	2%	Warehouse cost per unit (USD; lower is better)	Score = (Target_cost_per_unit / Actual_cost_per_unit) * 100
17	Warehouse (20%)	2%	Warehouse space utilization (%)	Score = Actual_space_utilization_%
18	Warehouse (20%)	2%	Shrinkage rate (%) (inventory loss; lower is better)	Score = (Target_shrinkage_rate / Actual_shrinkage_rate) * 100
19	Warehouse (20%)	2%	Number of backorders per month (lower is better)	Score = (Target_backorders / Actual_backorders) * 100
20	Warehouse (20%)	2%	Pallet movement per labor-hour (units; higher is better)	Score = (Actual_units_per_hour / Target_units_per_hour) * 100
21	Process (20%)	2%	Shipments per employee (monthly)	Score = (Actual_shipments_per_emp / Target_shipments_per_emp) * 100
22	Process (20%)	2%	Processing cost per shipment (USD; lower is better)	Score = (Target_process_cost / Actual_process_cost) * 100
23	Process (20%)	2%	Percentage of standard operating procedures followed	Score = Actual_SOP_compliance_%
24	Process (20%)	2%	Automation rate of manual processes (%)	Score = Actual_automation_rate_%
25	Process (20%)	2%	Regional process cycle time (total order to delivery, hrs; lower is better)	Score = (Target_total_cycle / Actual_total_cycle) * 100
26	Process (20%)	2%	Supply chain efficiency index (composite, higher is better)	Score = Actual_SCI_%
27	Process (20%)	2%	Percentage of on-time project milestones	Score = Actual_milestone_completion_%
28	Process (20%)	2%	IT systems uptime (%) (regional systems)	Score = Actual_IT_uptime_%
29	Process (20%)	2%	Data accuracy rate (%) in key systems	Score = Actual_data_accuracy_%
30	Process (20%)	2%	Percentage of operations supported by real-time tracking	Score = Actual_realtime_support_%
31	Safety (20%)	2%	Regional OSHA recordable incident rate (per 100 employees; lower is better)	Score = (Target_OSHA / Actual_OSHA) * 100
32	Safety (20%)	2%	Safety training hours per employee	Score = (Actual_hours / Target_hours) * 100
33	Safety (20%)	2%	Number of safety audits completed on schedule (%)	Score = Actual_audits_on_schedule_%
34	Safety (20%)	2%	Incident response time (mins; lower is better)	Score = (Target_response / Actual_response) * 100
35	Safety (20%)	2%	Work-related injury frequency (incidents per million hours; lower is better)	Score = (Target_injury_rate / Actual_injury_rate) * 100
36	Safety (20%)	2%	Percentage of sites passing safety audit without findings	Score = Actual_sites_no_findings_%
37	Safety (20%)	2%	Environmental compliance rate (%)	Score = Actual_env_compliance_%
38	Safety (20%)	2%	Corrective actions closure rate (%) (on time)	Score = (Closed_actions / Assigned_actions) * 100
39	Safety (20%)	2%	Lost-time incident rate (per 100 employees; lower is better)	Score = (Target_LTI_rate / Actual_LTI_rate) * 100
40	Safety (20%)	2%	Percentage of safety equipment checks completed	Score = Actual_equipment_check_%
41	Customer (20%)	2%	Regional customer satisfaction score (%)	Score = Actual_region_cust_sat_%
42	Customer (20%)	2%	Regional on-time response to customer inquiries (%)	Score = Actual_response_rate_%
43	Customer (20%)	2%	Percentage of repeat orders processed error-free	Score = Actual_error_free_repeat_%

Q. No.	Category (Wt%)	Q. Wt (%)	Question	Score Formula
44	Customer (20%)	2%	Region-level perfect order rate (%) (no issues per order)	Score = Actual_region_perfect_order_%
45	Customer (20%)	2%	Average lead time for regional orders (days; lower is better)	Score = (Target_regional_lead / Actual_regional_lead) * 100
46	Customer (20%)	2%	Percentage of customer SLAs met	Score = Actual_SLAs_met_%
47	Customer (20%)	2%	On-time invoice generation (%)	Score = Actual_invoice_on_time_%
48	Customer (20%)	2%	Average payment collection time (days; lower is better)	Score = (Target_collection_time / Actual_collection_time) * 100
49	Customer (20%)	2%	Monthly customer complaint rate (%)	Score = (Target_complaints / Actual_complaints) * 100
50	Customer (20%)	2%	Percentage of customer queries resolved within 24h	Score = Actual_queries_resolved_24h_%

3) City-Level Assessment

At the **City** level, metrics are more operational/local. Categories (each 20%) include **Local Delivery Efficiency, Inventory & Stock Control, Process Adherence, Safety & Compliance,** and **Customer Service.**

Q. No.	Category (Wt%)	Q. Wt (%)	Question	Score Formula
1	Delivery Efficiency (20%)	2%	City delivery on-time rate (%)	Score = Actual_on_time_%
2	Delivery Efficiency (20%)	2%	Avg last-mile delivery time (min; lower is better)	Score = (Target_delivery_time / Actual_delivery_time) * 100
3	Delivery Efficiency (20%)	2%	Delivery density (deliveries per route)	Score = (Actual_density / Target_density) * 100
4	Delivery Efficiency (20%)	2%	Vehicle loading rate (%) (used capacity vs total)	Score = Actual_loading_rate_%
5	Delivery Efficiency (20%)	2%	Percentage of deliveries with digital proof-of-delivery	Score = Actual_POD_%
6	Delivery Efficiency (20%)	2%	Fuel efficiency for city fleet (km/liter)	Score = (Actual_fuel_eff / Target_fuel_eff) * 100
7	Delivery Efficiency (20%)	2%	Turnaround time for city hub reloading (min; lower is better)	Score = (Target_turnaround / Actual_turnaround) * 100
8	Delivery Efficiency (20%)	2%	Backhaul utilization rate (%)	Score = Actual_backhaul_util_%
9	Delivery Efficiency (20%)	2%	On-time pickup rate (%)	Score = Actual_on_time_pickup_%
10	Delivery Efficiency (20%)	2%	City-level shipment per driver per day	Score = (Actual_shipments_per_driver / Target_per_driver) * 100
11	Inventory (20%)	2%	Branch inventory accuracy (%)	Score = Actual_inventory_accuracy_%
12	Inventory (20%)	2%	Stockout rate (%) (lower is better)	Score = (Target_stockout_rate / Actual_stockout_rate) * 100
13	Inventory (20%)	2%	Cycle count completion rate (%)	Score = Actual_cycle_count_%
14	Inventory (20%)	2%	Days of inventory on hand (lower is better)	Score = (Target_DOI / Actual_DOI) * 100
15	Inventory (20%)	2%	Space utilization (%)	Score = Actual_space_utilization_%
16	Inventory (20%)	2%	Shrinkage (%) (lower is better)	Score = (Target_shrinkage / Actual_shrinkage) * 100
17	Inventory (20%)	2%	Expired or obsolete stock (%) (lower is better)	Score = (Target_obsolete / Actual_obsolete) * 100
18	Inventory (20%)	2%	Order fill time (hours; lower is better)	Score = (Target_fill_time / Actual_fill_time) * 100
19	Inventory (20%)	2%	Fill rate to customers (%)	Score = Actual_fill_rate_%

Q. No.	Category (Wt%)	Q. Wt (%)	Question	Score Formula
20	Inventory (20%)	2%	Inventory turnover (times/year)	Score = (Actual_inv_turnover / Target_inv_turnover) * 100
21	Process (20%)	2%	Percentage of processes automated	Score = Actual_automation_%
22	Process (20%)	2%	Staff training compliance (%) (completed required training)	Score = Actual_training_%
23	Process (20%)	2%	Adherence to standard pickup/check-in procedures (%)	Score = Actual_SOP_adherence_%
24	Process (20%)	2%	Order processing accuracy (%)	Score = Actual_processing_accuracy_%
25	Process (20%)	2%	Avg daily throughput (packages handled per day)	Score = (Actual_throughput / Target_throughput) * 100
26	Process (20%)	2%	Call center response rate (%)	Score = Actual_call_response_%
27	Process (20%)	2%	Reports submitted on time (%)	Score = Actual_reports_%
28	Process (20%)	2%	Percentage of branches meeting audit schedules	Score = Actual_branches_on_schedule_%
29	Process (20%)	2%	Internal inventory audit pass rate (%)	Score = Actual_inventory_audit_%
30	Process (20%)	2%	Percentage of escalations resolved within SLA (%)	Score = Actual_escalations_resolved_%
31	Safety (20%)	2%	City-level incident rate (accidents per 100 employees; lower is better)	Score = (Target_incident_rate / Actual_incident_rate) * 100
32	Safety (20%)	2%	PPE compliance (%) (personnel wearing required equipment)	Score = Actual_PPE_compliance_%
33	Safety (20%)	2%	Number of safety audits passed (%)	Score = (Passed_audits / Total_audits) * 100
34	Safety (20%)	2%	Compliance with local regulations (%)	Score = Actual_local_compliance_%
35	Safety (20%)	2%	Environmental safety incidents (count; lower is better)	Score = (Target_incidents / Actual_incidents) * 100
36	Safety (20%)	2%	Fire drill completion rate (%)	Score = Actual_fire_drill_%
37	Safety (20%)	2%	Equipment inspection rate (%)	Score = Actual_equipment_inspection_%
38	Safety (20%)	2%	Ergonomic training completion (%)	Score = Actual_ergonomic_training_%
39	Safety (20%)	2%	Lost-time injury frequency (per 100 employees; lower is better)	Score = (Target_LTI / Actual_LTI) * 100
40	Safety (20%)	2%	Compliance with waste disposal regulations (%)	Score = Actual_waste_compliance_%
41	Customer (20%)	2%	In-city customer satisfaction (%)	Score = Actual_city_cust_sat_%
42	Customer (20%)	2%	Percentage of orders delivered in full	Score = Actual_orders_in_full_%
43	Customer (20%)	2%	City-level complaint resolution rate (%)	Score = Actual_city_complaint_res_%
44	Customer (20%)	2%	Average follow-up response time (hrs; lower is better)	Score = (Target_follow_up / Actual_follow_up) * 100
45	Customer (20%)	2%	Customer repeat order rate (%)	Score = Actual_repeat_order_%
46	Customer (20%)	2%	Local net promoter score (%)	Score = Actual_city_NPS_%
47	Customer (20%)	2%	Timeliness of emergency orders (%)	Score = Actual_emergency_on_time_%
48	Customer (20%)	2%	Percentage of customers enrolled in loyalty programs	Score = Actual_loyalty_%
49	Customer (20%)	2%	Feedback survey completion rate (%)	Score = Actual_survey_rate_%
50	Customer (20%)	2%	Cancellation rate (%) (lower is better)	Score = (Target_cancellation_rate / Actual_cancellation_rate) * 100

4) Branch-Level Assessment

At the **Branch** (site) level, questions focus on day-to-day operations. Categories (20% each) include **Daily Operations Efficiency, Inventory Accuracy, Safety & Compliance, Process Adherence, and Equipment/Maintenance.**

Q. No.	Category (Wt%)	Q. Wt (%)	Question	Score Formula
1	Daily Ops (20%)	2%	Shipments processed per day	Score = (Actual_shipments / Target_shipments) * 100
2	Daily Ops (20%)	2%	On-time delivery rate (%) at branch	Score = Actual_on_time_%
3	Daily Ops (20%)	2%	Order picking accuracy (%)	Score = Actual_picking_accuracy_%
4	Daily Ops (20%)	2%	Shipments per labor-hour	Score = (Actual_shipments_per_hour / Target_per_hour) * 100
5	Daily Ops (20%)	2%	Branch throughput vs plan (%)	Score = (Actual_throughput / Planned_throughput) * 100
6	Daily Ops (20%)	2%	Queue time at branch (mins; lower is better)	Score = (Target_queue_time / Actual_queue_time) * 100
7	Daily Ops (20%)	2%	Local customer complaints (%) (lower is better)	Score = (Target_complaints / Actual_complaints) * 100
8	Daily Ops (20%)	2%	Price quote accuracy (%)	Score = Actual_quote_accuracy_%
9	Daily Ops (20%)	2%	Order cycle time (hours from order to dispatch; lower is better)	Score = (Target_cycle_time / Actual_cycle_time) * 100
10	Daily Ops (20%)	2%	Stockout incidents per month (lower is better)	Score = (Target_stockouts / Actual_stockouts) * 100
11	Inventory (20%)	2%	Inventory count accuracy (%)	Score = Actual_inventory_accuracy_%
12	Inventory (20%)	2%	Cycle count completion (%)	Score = Actual_cycle_count_%
13	Inventory (20%)	2%	Order fill rate (%)	Score = Actual_fill_rate_%
14	Inventory (20%)	2%	Inventory replenishment lead time (days; lower is better)	Score = (Target_replenishment / Actual_replenishment) * 100
15	Inventory (20%)	2%	Number of inventory adjustments (count; lower is better)	Score = (Target_adjustments / Actual_adjustments) * 100
16	Inventory (20%)	2%	Stock accuracy (negative adjustments) (%) (lower is better)	Score = (Target_neg_adjust / Actual_neg_adjust) * 100
17	Inventory (20%)	2%	Return rate (%) (customer returns)	Score = (Target_return_rate / Actual_return_rate) * 100
18	Inventory (20%)	2%	Wastage/spoilage rate (%) (lower is better)	Score = (Target_waste / Actual_waste) * 100
19	Inventory (20%)	2%	Stock rotation index (times per month)	Score = (Actual_rotation / Target_rotation) * 100
20	Inventory (20%)	2%	Inventory to sales ratio (target vs actual)	Score = (Actual_ratio / Target_ratio) * 100
21	Safety & Compliance (20%)	2%	Branch OSHA incident rate (per 100 employees; lower is better)	Score = (Target_OSHA / Actual_OSHA) * 100
22	Safety & Compliance (20%)	2%	Safety checklist completion rate (%)	Score = Actual_checklist_%
23	Safety & Compliance (20%)	2%	Emergency drill completion (%)	Score = Actual_drill_%
24	Safety & Compliance (20%)	2%	Personal protective equipment compliance (%)	Score = Actual_PPE_%
25	Safety & Compliance (20%)	2%	Number of safety violations this month (lower is better)	Score = (Target_violations / Actual_violations) * 100
26	Safety & Compliance (20%)	2%	Chemical handling compliance (%)	Score = Actual_chemical_%
27	Safety & Compliance (20%)	2%	Vehicle inspection rate (%)	Score = Actual_vehicle_inspection_%
28	Safety & Compliance (20%)	2%	Safety incident response time (mins; lower is better)	Score = (Target_response / Actual_response) * 100

Q. No.	Category (Wt%)	Q. Wt (%)	Question	Score Formula
29	Safety & Compliance (20%)	2%	Percentage of equipment maintenance on schedule	Score = Actual_maintenance_%
30	Safety & Compliance (20%)	2%	Compliance training rate (%)	Score = Actual_training_compliance_%
31	Process (20%)	2%	Standard operating procedure compliance (%)	Score = Actual_SOP_compliance_%
32	Process (20%)	2%	Number of non-conformance incidents (lower is better)	Score = (Target_nonconformances / Actual_nonconformances) * 100
33	Process (20%)	2%	Time to resolve customer issues (hrs; lower is better)	Score = (Target_resolution / Actual_resolution) * 100
34	Process (20%)	2%	Percentage of daily targets met	Score = Actual_targets_met_%
35	Process (20%)	2%	Cross-docking rate (%)	Score = Actual_crossdock_%
36	Process (20%)	2%	Order cycle time for priority orders (hrs; lower is better)	Score = (Target_priority_cycle / Actual_priority_cycle) * 100
37	Process (20%)	2%	Daily report submission on time (%)	Score = Actual_reports_on_time_%
38	Process (20%)	2%	Percentage of courier pickups met	Score = Actual_pickups_met_%
39	Process (20%)	2%	Compliance with digital record-keeping (yes=100, no=0)	Score = (Compliant ? 100 : 0)
40	Process (20%)	2%	Parking space utilization (%)	Score = Actual_parking_util_%
41	Equipment (20%)	2%	Equipment uptime (%)	Score = Actual_equipment_uptime_%
42	Equipment (20%)	2%	Preventive maintenance completion (%)	Score = Actual_preventive_%
43	Equipment (20%)	2%	Mean time to repair (hrs; lower is better)	Score = (Target_MTTRepair / Actual_MTTRepair) * 100
44	Equipment (20%)	2%	Number of equipment failures per month (lower is better)	Score = (Target_failures / Actual_failures) * 100
45	Equipment (20%)	2%	Percentage of safety checks done on equipment	Score = Actual_eqp_safety_checks_%
46	Equipment (20%)	2%	Inventory of spare parts accuracy (%)	Score = Actual_spare_accuracy_%
47	Equipment (20%)	2%	Calibration compliance (%)	Score = Actual_calibration_%
48	Equipment (20%)	2%	Avg downtime of critical machines (hrs; lower is better)	Score = (Target_downtime / Actual_downtime) * 100
49	Equipment (20%)	2%	Maintenance cost per unit (\$; lower is better)	Score = (Target_cost_per_unit / Actual_cost_per_unit) * 100
50	Equipment (20%)	2%	Backlog of preventive tasks (count; lower is better)	Score = (Target_backlog / Actual_backlog) * 100

Score Calculation Mechanism

Each question yields a **score (0–100)** via its formula. For “higher-is-better” metrics we use $(\text{Actual}/\text{Target}) \times 100$ (capped at 100), and for “lower-is-better” metrics we use $(\text{Target}/\text{Actual}) \times 100$. (For example, trailer utilization = $(\text{used}/\text{total}) \times 100$ [6].) We then multiply each question’s score by its weight (in % of the total) and sum across all questions to compute the final health score out of 100[7]. In practice this is a weighted average (as in Balanced Scorecard methodology[7]).

Example: If two questions in a category carry 70% and 30% weight, and their scores are 80 and 90 respectively, the category score = $0.7 \times 80 + 0.3 \times 90 = 83$ [7]. The overall score is similarly the weighted sum of all question scores.

Sources

We base this framework on industry-standard logistics KPIs and scorecard methods[1][2][4][7], ensuring each question is objective and quantifiable. The cited references illustrate typical metrics (on-time delivery, inventory accuracy, perfect order rate, etc.) and weighted-scoring principles used in logistics scorecards[1][5][3][6].

[1] boltrics.com

<https://www.boltrics.com/wp-content/uploads/2021/10/EN-Whitepaper-KPI-How-to-determine-the-most-important-KPIs-for-your-logistics-business.pdf>

[2] [3] [4] [5] The Essential Logistics KPIs & Metrics You Need to Track | NetSuite

<https://www.netsuite.com/portal/resource/articles/inventory-management/logistics-kpis-metrics.shtml>

[6] [7] Logistics Scorecard with Example of Strategy Map and KPIs

<https://bscdesigner.com/logistics-strategy.htm>
