

vehicles		
PK	vehicle_id (PK)	BIGINT
UNIQUE	license_plate	VARCHAR
NOT NULL	make	VARCHAR
NOT NULL	model	VARCHAR
CHECK	year	SMALLINT
NOT NULL	vehicle_type	ENUM
NOT NULL	max_weight_capacity	SMALLINT
NOT NULL	max_volume_capacity	SMALLINT
NOT NULL	current_status	ENUM
NOT NULL	acquisition_date	DATE
NOT NULL	last_inspection_date	DATE
NOT NULL	next_inspection_due	DATE
NOT NULL	fuel_type	ENUM
NOT NULL	average_mpg	SMALLINT
NOT NULL	current_mileage	INT

vendors		
PK	vendor_id	BIGINT
NOT NULL	name	VARCHAR
NOT NULL	contact_person	VARCHAR
NOT NULL	email	VARCHAR
NOT NULL	phone	VARCHAR
NOT NULL	service_type	ENUM
NOT NULL	contract_start_date	DATE
NOT NULL	contract_end_date	DATE
NOT NULL	preferred_vendor_status	VARCHAR

employees		
PK	employee_id	BIGINT
NOT NULL	first_name	VARCHAR
NOT NULL	last_name	VARCHAR
UNIQUE	email	VARCHAR
UNIQUE	phone	VARCHAR
NOT NULL	hire_date	DATE
NOT NULL	job_title	VARCHAR
NOT NULL	department	VARCHAR
FK (Employees)	manager_id	BIGINT
NOT NULL	monthly_salary	DECIMAL
NOT NULL	address	VARCHAR
NOT NULL	emergency_contact	VARCHAR
NOT NULL	driver_license_number	VARCHAR

fuel_purchases		
PK	purchase_id	BIGINT
FK (Vehicles)	vehicle_id	BIGINT
FK (Vendors)	vendor_id	BIGINT
NOT NULL	purchase_date	DATETIME
NOT NULL	gallons	DECIMAL
NOT NULL	price_per_gallon	DECIMAL
NOT NULL	total_cost	DECIMAL
NOT NULL	odometer_reading	DECIMAL
NOT NULL	payment_method	ENUM
NOT NULL	receipt_number	VARCHAR
FK (Employees)	driver_id	BIGINT

maintenance_records		
PK	maintenance_id	BIGINT
FK (Vehicles)	vehicle_id	BIGINT
FK (Vendors)	vendor_id	BIGINT
NOT NULL	maintenance_type	VARCHAR
NOT NULL	description	VARCHAR
NOT NULL	date_performed	DATE
NOT NULL	mileage_at_service	DECIMAL
NOT NULL	cost	DECIMAL
NOT NULL	parts_used	VARCHAR
NOT NULL	next_service_date	DATE
NOT NULL	technician_notes	VARCHAR

warehouse		
PK	warehouse_id	BIGINT
UNIQUE	name	VARCHAR
UNIQUE	address	VARCHAR
NOT NULL	city	VARCHAR
NOT NULL	state	VARCHAR
NOT NULL	postal_code	VARCHAR
NOT NULL	created_at	DATE
NOT NULL	updated_at	DATE
NOT NULL	square_footage	SMALLINT
NOT NULL	dock_doors_count	SMALLINT
NOT NULL	start_time	TIME
NOT NULL	end_time	TIME
FK (Employees)	manager_id	BIGINT
NOT NULL	temperature_controlled	BOOLEAN
NOT NULL	hazardous_material_allowed	BOOLEAN

service_area		
PK	area_id	BIGINT
NOT NULL	name	VARCHAR
NOT NULL	description	TEXT
NOT NULL	base_delivery_fee	DECIMAL
NOT NULL	estimated_transit_time_hours	SMALLINT
NOT NULL	service_level	ENUM

customers		
PK	customer_id	BIGINT
NOT NULL	name	VARCHAR
UNIQUE	email	VARCHAR
UNIQUE	phone	VARCHAR
NOT NULL	address_line1	VARCHAR
NOT NULL	address_line2	VARCHAR
NOT NULL	city	VARCHAR
NOT NULL	state	VARCHAR
NOT NULL	postal_code	VARCHAR
NOT NULL	created_at	DATETIME
NOT NULL	customer_type	ENUM
NOT NULL	preferred_contact_method	ENUM
NOT NULL	loyalty_points	SMALLINT

service_area_zip_codes		
FK (Service_Area)	area_id	BIGINT
UNIQUE	zip_code	VARCHAR

delivery_routes		
PK	route_id	BIGINT
FK (Employees)	driver_id	BIGINT
FK (Vehicles)	vehicle_id	BIGINT
FK (Warehouse)	start_warehouse_id	BIGINT
NOT NULL	start_at	DATETIME
NOT NULL	end_at	DATETIME
NOT NULL	status	ENUM
NOT NULL	total_stops_planned	SMALLINT
NOT NULL	total_stops_completed	SMALLINT
NOT NULL	miles_estimated	DECIMAL
NOT NULL	miles_actual	DECIMAL
NOT NULL	fuel_consumed_gallons	DECIMAL
NOT NULL	route_score (driver rating)	DECIMAL

shipments		
PK	shipment_id	BIGINT
FK (Customers)	customer_id	BIGINT
FK (Warehouse)	origin_warehouse_id	BIGINT
NOT NULL	destination_address	VARCHAR
NOT NULL	destination_city	VARCHAR
NOT NULL	destination_state	VARCHAR
NOT NULL	destination_postal_code	VARCHAR
FK (Service_Area)	service_area_id	BIGINT
NOT NULL	pickup_date	DATE
NOT NULL	estimated_delivery_date	DATETIME
NOT NULL	actual_delivery_date	DATETIME
NOT NULL	status	ENUM
NOT NULL	priority_level	ENUM
NOT NULL	special_instructions	VARCHAR
FK (Employees)	dispatcher_id	BIGINT
NOT NULL	billing_notes	VARCHAR

route_stops		
PK	stop_id	BIGINT
FK (Delivery_Routes)	route_id	BIGINT
UNIQUE	sequence_number	BIGINT
FK (Shipments)	shipment_id	BIGINT
NOT NULL	estimated_arrival	DATETIME
NOT NULL	actual_arrival	DATETIME
NOT NULL	departure_time	DATETIME
NOT NULL	stop_duration_minutes	TINYINT
NOT NULL	stop_status	ENUM
NOT NULL	delivery_notes	VARCHAR
NOT NULL	recipient_signature	VARCHAR
NOT NULL	proof_of_delivery_url	VARCHAR

packages		
PK	package_id	BIGINT
FK (Shipments)	shipment_id	BIGINT
NOT NULL	description	VARCHAR
NOT NULL	weight	DECIMAL
NOT NULL	length	DECIMAL
NOT NULL	width	DECIMAL
NOT NULL	height	DECIMAL
NOT NULL	package_type	VARCHAR
NOT NULL	tracking_number	VARCHAR
NOT NULL	is_fragile	BOOLEAN
NOT NULL	is_perishable	BOOLEAN
NOT NULL	requires_signature	BOOLEAN
NOT NULL	declared_value	DECIMAL
NOT NULL	customs_info	VARCHAR
NOT NULL	handling_instructions	VARCHAR

customer_service_tickets		
PK	ticket_id	BIGINT
FK (Customers)	customer_id	BIGINT
FK (Shipments)	shipment_id	BIGINT
FK (Employees)	employee_id	BIGINT
NOT NULL	ticket_date	DATE
NOT NULL	issue_type	ENUM
NOT NULL	description	VARCHAR
NOT NULL	resolution	VARCHAR
NOT NULL	status	ENUM
NOT NULL	priority	ENUM
NOT NULL	resolution_time_minutes	INT
NOT NULL	customer_satisfaction_rating	DECIMAL

insurance_claims		
PK	claim_id	BIGINT
FK (Shipments)	shipment_id	BIGINT
FK (Customers)	customer_id	BIGINT
NOT NULL	claim_date	DATE
NOT NULL	claim_amount	DECIMAL
NOT NULL	damge_description	VARCHAR
NOT NULL	claim_status	ENUM
NOT NULL	settlement_date	DATE
NOT NULL	settlement_amount	DECIMAL
NOT NULL	adjuster_id	BIGINT
FK (Employees)	investigation_notes	VARCHAR

Inventory		
PK	inventory_id	BIGINT
FK (Warehouse)	warehouse_id	BIGINT
FK (Packages)	package_id	BIGINT
UNIQUE	location_code	VARCHAR
NOT NULL	date_received	DATETIME
NOT NULL	date_shipped	DATETIME
NOT NULL	current_status	ENUM
FK (Employees)	handled_by	BIGINT
NOT NULL	temperature_log	DECIMAL

Invoices		
PK	invoice_id	BIGINT
FK (Shipments)	shipment_id	BIGINT
FK (Customers)	customer_id	BIGINT
NOT NULL	issue_date	DATE
NOT NULL	due_date	DATE
NOT NULL	total_amount	DECIMAL
NOT NULL	tax_amount	DECIMAL
NOT NULL	discount_amount	DECIMAL
NOT NULL	amount_paid	DECIMAL
NOT NULL	payment_date	DATETIME
NOT NULL	payment_method	ENUM
NOT NULL	payment_status	ENUM
NOT NULL	late_fee_amount	DECIMAL