AutoVerse - Vehicle-Sharing & Fleet Ops (Key Entities Identified)

1. **Users**
   (**PK:** user_id(int);
   Attributes: email(varchar), full_name(varchar), phone(varchar), country_code(char2), created_at(datetime), status(varchar))

2. **Drivers**
   (**PK:** driver_id(int);
   FK: user_id -> Users.user_id;
   Attributes: license_no(varchar), onboarded_at(datetime), status(varchar), rating(numeric))

3. **DriverDocuments**
   (**PK:** doc_id(int);
   FK: driver_id -> Drivers.driver_id;
   Attributes: doc_type(varchar), doc_number(varchar), issued_at(date), expires_at(date), verified(bool), uploaded_at(datetime))

4. **VehicleTypes**
   (**PK:** vtype_id(int);
   Attributes: name(varchar), energy(varchar), seats(int))

5. **Vehicles**
   (P**K:** vehicle_id(int);
   FK: vtype_id -> VehicleTypes.vtype_id;
   Attributes: registration_no(varchar), make(varchar), model(varchar), make_year(int), color(varchar), current_mileage(int), city(varchar), status(varchar))

6. **VehicleInsurance**
   (**PK:** policy_id(int);
   FK: vehicle_id -> Vehicles.vehicle_id;
   Attributes: insurer_name(varchar), policy_no(varchar), start_date(date), end_date(date), coverage_desc(text))

7. **Bookings**
   (**PK:** booking_id(int);
   FK: user_id -> Users.user_id;
   Attributes: requested_at(datetime), scheduled_at(datetime), pickup_lat(numeric), pickup_lng(numeric), drop_lat(numeric), drop_lng(numeric), status(varchar), fare_estimate(numeric), surge_multiplier(numeric))

8. **Trips**
   (**PK:** trip_id(int);
   FK: booking_id -> Bookings.booking_id, driver_id -> Drivers.driver_id, vehicle_id ->
   Vehicles.vehicle_id;
   Attributes: start_time(datetime), end_time(datetime), distance_km(numeric),
   duration_min(numeric), base_fare(numeric), time_fare(numeric),
   distance_fare(numeric), surge_fee(numeric), tax_amount(numeric), total_fare(numeric),
   payment_status(varchar))

9. **TelemetryEvents**
   (**PK:** telemetry_id(bigint);
   FK: trip_id -> Trips.trip_id;
   Attributes: recorded_at(datetime), lat(numeric), lng(numeric), speed_kmph(numeric),
   battery_pct(int), event_type(varchar))

10. **Payments**
    (**PK:** payment_id(int);
    FK: trip_id -> Trips.trip_id, user_id -> Users.user_id;
    Attributes: amount(numeric), currency(char3), method(varchar), status(varchar),
    paid_at(datetime), provider_txn_ref(varchar))

11. **Refunds**
    (**PK:** refund_id(int);
    FK: payment_id -> Payments.payment_id;
    Attributes: amount(numeric), reason(varchar), status(varchar), processed_at(datetime)
)

12. **DriverPayouts**
    (**PK:** payout_id(int);
    FK: driver_id -> Drivers.driver_id;
    Attributes: period_start(date), period_end(date), gross_amount(numeric),
    commission_deduction(numeric), adjustments(numeric), net_amount(numeric),
    status(varchar), paid_at(datetime), reference_no(varchar))

13. **MaintenanceRecords**
    (**PK:** maint_id(int);
    FK: vehicle_id -> Vehicles.vehicle_id;
    Attributes: service_date(date), service_type(varchar), odometer_km(int),
    cost(numeric), vendor(varchar), notes(varchar))

14. Incidents
(**PK:** incident_id(int);
FK: trip_id -> Trips.trip_id, reported_by_user_id -> Users.user_id, reported_by_driver_id -> Drivers.driver_id;
Attributes: incident_type(varchar), description(text), reported_at(datetime), status(varchar), resolution_notes(text))

15. SupportTickets
PK: ticket_id(int);
FK: user_id -> Users.user_id, trip_id -> Trips.trip_id;
Attributes: category(varchar), opened_at(datetime), resolved_at(datetime), status(varchar), notes(text))

16. Ratings
(**PK:** rating_id(int);
FK: trip_id -> Trips.trip_id, rater_user_id -> Users.user_id;
Attributes: target_type(varchar), score(int), comment(varchar), rated_at(datetime))

17. ChargingStations
(**PK:** station_id(int);
Attributes: name(varchar), operator(varchar), city(varchar), lat(numeric), lng(numeric), connectors(varchar))

18. ChargingSessions
(**PK:** session_id(int);
FK: vehicle_id -> Vehicles.vehicle_id, station_id -> ChargingStations.station_id;
Attributes: start_at(datetime), end_at(datetime), kwh_consumed(numeric), cost_amount(numeric), cost_currency(char3), energy_source(varchar))

19. Plans
(**PK:** plan_id(int);
Attributes: name(varchar), monthly_fee(numeric), currency(char3), perks(text), active(bool))

20. Subscriptions
(**PK:** sub_id(int);
FK: user_id -> Users.user_id, plan_id -> Plans.plan_id;
Attributes: start_date(date), end_date(date), auto_renew(bool), status(varchar), last_renewal_at(datetime))