Paris Arrow Transport Vehicle Assets
1st July 2024

Vehicle ID Number (VIN)	Registration Number	Make	Model	Year	Current Odometer	Seats Number of Passengers	Features		
YV4Y22HM5N1234567	LA51ABC	Volvo	EX90 all-electric SUV	2024	589	4	Large boot space	Armour plating	Total blackout
5TDYZ3DC3NS100644	LL50JMB	Toyota	Sienna	2023	3500	6			
VR7A45GFSNL053652	LC68RAF	Citreon	C5 Aircross	2023	2789	4	Mobile WiFi	Total blackout	
VF3M45GYWJL123456	YK02OML	Peugeot	5008	2023	1258	7	Large boot space		
WF0EXXTTRELE07905	LM10KLI	Ford	Transit Cargo Van	2022	12309	2	Electric tail lift	Carry long objects	GPS Tracking
WF0EXXTTRELE08531	LL6 DEG	Ford	Transit Cargo Van	2023	3481	2	Electric tail lift	Carry long objects	
1FTYE2CMXK1433716	LL51KNC	Audi	A1	2023	4600	3	Armour plating,	Total blackout	GPS Tracking
WF0EXYTTRELE00234	LK23MNO	Ford	E-Transit	2024	489	2	GPS Tracking		

UNF:
VEHICLE (vehicle_id, vehicle_plate, vehicle _make, vehicle _model, vehicle _year, vehicle _odometer, vehicle_num_of_psng, (vf_name))

1NF:
VEHICLE (vehicle_id, vehicle_plate, vehicle _make, vehicle _model, vehicle _year, vehicle _odometer, vehicle_num_of_psng)

CK:
　　vehicle_id

VEHICLE_FEATURE (vehicle_id, vf_name)

CK:
　　vehicle_id, vf_name

Partial dependency:
　　No partial dependencies present

2NF:
VEHICLE (vehicle_id, vehicle_plate, vehicle _make, vehicle _model, vehicle _year, vehicle _odometer, vehicle_num_of_psng)
VEHICLE_FEATURE (vehicle_id, vf_name)

Transitive Dependencies:
　　No transitive dependencies present

3NF:
VEHICLE (vehicle_id, vehicle_plate, vehicle _make, vehicle _model, vehicle _year, vehicle _odometer, vehicle_num_of_psng)
VEHICLE_FEATURE (vehicle_id, vf_name)

Full dependencies:
vehicle_id -> vehicle_plate, vehicle_make, vehicle _model, vehicle _year, vehicle _odometer, vehicle_num_of_psng

PARIS ARROW TRANSIT **DRIVER JOB SHEET**		
Trip ID		1456
Assigned Vehicle	VIN Rego	YV4Y22HM5N1234567 LA51ABC
Assigned Driver	Driver ID Driver Name:	0028 Gabriel Bastein
Booked For	Officials Olympic ID: Officials Name:	FRA0048 Alain Rouse
Number of Passengers		2
Pick up Location	Location ID: Location Name: Location Type: Location Address:	34 Hyatt Regency Paris Etoile Hotel 3 Pl. du Général Kœnig, 75017 Paris
Intended Pick Up Time		28th July 2024 09:00 hrs
Actual Pick Up Time		
Drop off Location	Location ID: Location Name: Location Type: Location Address:	22 Esplanade des Invalides Green Space 1 Rue Fabert, 75007 Paris
Intended Drop Off Time		28th July 2024 09:30 hrs
Actual Drop Off Time		

PARIS ARROW TRANSIT DRIVER JOB SHEET		
Trip ID		1234
Assigned Vehicle	VIN	5TDYZ3DC3NS100644
	Rego	LL50JMB
Assigned Driver	Driver ID	0023
	Driver Name:	Marie Martin
Booked For	Officials Olympic ID:	AUS0102
	Officials Name:	Emily Brown
Number of Passengers		5
Pick up Location	Location ID:	25
	Location Name:	Paris Athletes Village Pickup Zone
	Location Type:	Olympic Village
	Location Address:	55 Rue Volta, Saint-Denis
Intended Pick Up Time		26th July 2024 13:00 hrs
Actual Pick Up Time		26th July 2024 13:00 hrs
Drop off Location	Location ID:	10
	Location Name:	Stade de France
	Location Type:	Stadium
	Location Address:	93216 Saint-Denis, 93200 Paris
Intended Drop Off Time		26th July 2024 13:10 hrs
Actual Drop Off Time		26th July 2024 13:15 hrs

UNF:

TRIP (trip_id, vehicle_id, vehicle_plate, driver_id, driver_name, official_id, official_name, trip_no_of_psng, pickup_loc_id, pickup_loc_name, pickup_loc_type, pickup_loc_address, trip_intended_pickup_time, trip_actual_pickup_time, dropoff_loc_id, dropoff_loc_name, dropoff_loc_type, dropoff_loc_address, trip_intended_dropoff_time, trip_actual_dropoff_time)

1NF:

TRIP (trip_id, vehicle_id, vehicle_plate, driver_id, driver_name, official_id, official_name, trip_no_of_psng, pickup_loc_id, pickup_loc_name, pickup_loc_type, pickup_loc_address, trip_intended_pickup_time, trip_actual_pickup_time, dropoff_loc_id, dropoff_loc_name, dropoff_loc_type, dropoff_loc_address, trip_intended_dropoff_time, trip_actual_dropoff_time)

CK:
trip_id

Partial Dependencies:
No partial dependencies present

2NF:

TRIP (trip_id, vehicle_id, vehicle_plate, driver_id, driver_name, official_id, official_name, trip_no_of_psng, pickup_loc_id, pickup_loc_name, pickup_loc_type, pickup_loc_address, trip_intended_pickup_time, trip_actual_pickup_time, dropoff_loc_id, dropoff_loc_name, dropoff_loc_type, dropoff_loc_address, trip_intended_dropoff_time, trip_actual_dropoff_time)

Transitive Dependencies:
vehicle_id -> vehicle_plate
driver_id -> driver_name
official_id -> official_name
pickup_loc_id -> pickup_loc_name, pickup_loc_type, pickup_loc_address
dropoff_loc_id -> dropoff_loc_name, dropoff_loc_type, dropoff_loc_address

3NF:
TRIP (trip_id, vehicle_id, driver_id, official_id, trip_no_of_psng, pickup_loc_id, trip_intended_pickup_time, trip_actual_pickup_time, dropoff_loc_id, trip_intended_dropoff_time, trip_actual_dropoff_time)
VEHICLE (vehicle_id, vehicle_plate)
DRIVER (driver_id, driver_name)
OFFICIAL (official_id, official_name)
PICKUP_LOCATION (pickup_loc_id, pickup_loc_name, pickup_loc_type, pickup_loc_address)
DROPOFF_LOCATION (dropoff_loc_id, dropoff_loc_name, dropoff_loc_type, dropoff_loc_address)

Full Dependencies:
trip_id -> vehicle_id, driver_id, official_id, trip_no_of_psng, pickup_location_id, trip_intended_pickup_time, trip_actual_pickup_time, dropoff_location_id, trip_intended_dropoff_time, trip_actual_dropoff_time

vehicle_id -> vehicle_plate
        driver_id -> driver_name
official_id -> official_name
pickup_location_id -> pickup_location_name, pickup_location_type, pickup_location_address
dropoff_location_id -> dropoff_location_name, dropoff_location_type, dropoff_location_address

COLLECTED 3NF RELATIONS:
1. VEHICLE (vehicle_id, vehicle_plate, vehicle _make, vehicle _model, vehicle _year, vehicle _odometer, vehicle_num_of_psng)
2. VEHICLE_FEATURE (vehicle_id, vf_name)
3. TRIP (trip_id, vehicle_id, driver_id, official_id, trip_no_of_psng, pickup_loc_id, trip_intended_pickup_time, trip_actual_pickup_time, dropoff_loc_id, trip_intended_dropoff_time, trip_actual_dropoff_time)
4. VEHICLE (vehicle_id, vehicle_plate)

5. DRIVER (<u>driver_id,</u> driver_name)
6. OFFICIAL (<u>official_id,</u> official_name)
7. PICKUP_LOCATION (<u>pickup_loc_id</u>, pickup_loc_name, pickup_loc_type, pickup_loc_address)
8. DROPOFF_LOCATION (<u>dropoff_loc_id,</u> dropoff_loc_name, dropoff_loc_type, dropoff_loc_address)

ATTRIBUTE SNYTHESIS:

Combine PICKUP_LOCATION and DROPOFF_LOCATION into LOCATION (loc_id, loc_name, loc_type, loc_address) as they are identical relations.

Join together relations, which have an identical PK – i.e. represent the same entity:

1.&4.
VEHICLE (vehicle_id, vehicle_plate, vehicle _make, vehicle _model, vehicle _year, vehicle _odometer, vehicle_num_of_psng)

FINAL 3NF Relations:

1. VEHICLE (<u>vehicle_id,</u> vehicle_plate, vehicle _make, vehicle _model, vehicle _year, vehicle _odometer, vehicle_num_of_psng)
2. VEHICLE_FEATURE (<u>vehicle_id, vf_name</u>)
3. TRIP (<u>trip_id,</u> vehicle_id, driver_id, official_id, trip_no_of_psng, pickup_loc_id, trip_intended_pickup_time, trip_actual_pickup_time, dropoff_loc_id, trip_intended_dropoff_time, trip_actual_dropoff_time)
4. DRIVER (<u>driver_id,</u> driver_name)
5. OFFICIAL (<u>official_id,</u> official_name)
6. LOCATION (<u>loc_id</u>, loc_name, loc_type, loc_address)