

That documentation about ERDS of transportation system. The system enables its Client reserve tickets for a bus trip. The system will used by book office. So The Client will call book office through which all bus reservations are saved and ask to book a ticket for specific trip and specific time and action is taken if that trip is exists .The daily income of that office is recorded and whether it achieves the required income or not. The ticket price is calculated based on the type of bus and the distance that client rode (the picking up point(station) and the end point of that client). Where the system save the route of each bus and the stations that go through it.

### **Transportation Management System entities and their attributes:**

-----

Customer :{first name , last name ,Social Security number(SSN) , Email , Address , mobile number };

booking office:{number , daily income , Date , address , time open , time close};

Employee:{license , name {first , second} , email , phone number , address , employee id , hire date , job id };

dependent:{name , birthdate , relationship , sex};

BUS:{Capacity , Bus id , type , cost }

company:{name , email , coordinator name , phone number {country code , number } };

Route:{Duration , route ticket , route id , route point , pickUp point };

Station:{name , station id};

-----

-----

### **Description of Transportation Management System Database:**

1-

each customer can request a ticket that contains{ price, route id, time, date} and make a complaint that contains { time , date , bus id } In a particular employee to booking office and available for him many booking offices and vice versa each booking office must have customers

2-each bus must make a registration that contains {time, date} and available for it many booking offices and vice versa each bus must join the booking office

3-each bus can be bought that contains { model, cost, date} and maintain that contains { cost , date , Spare part } and available for it one company and each bus must have company

4- Each bus has more than one road, and each road has more than one bus that goes in it .The bus must go on a road and not on every bus route

5- Each road has a number of stations, and each station can be reached by more than one road

6-the employees contain a number of drivers, and each driver of them can drive more than one bus, and each bus is driven by more than one driver

7-Each manager supervises a number of employees

8- The employee may have dependents

---

### **Attributes of primary key, multiple, and compound**

---

primary key {SSN\_Customer , Employee\_id , number of booking office , BUS\_id , Email \_ company , route\_id , Station\_id };

multiple {phone number of company};

compound {customer\_name , time of booking office , name of employee , time of driving a bus , phone number of company };

---