

# DBMS Project: Public Transport Advisor

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The database is named **TRANSPORT**. The aim of the application is to provide the best route between two metro or bus stations. This is a problem seldom appropriately tackled by transport authorities in Bangalore, as well as in many other cities. The BMTC app available on the Play Store is inadequate, and not well managed, as well as doesn't include metro railway transport in its routes.

To solve this problem, we aim to create an application software which will guide the user to find the most optimal route to take when commuting across the city using public transport. Not only will this help the travellers to plan their commute effectively, but it will also promote the use of public transport in cities where traffic is a constantly growing menace.

The basic structure of the public transport system in Bangalore is as follows:

- The **BUSES** in our city are characterised by several properties such as BUS NUMBER which serves as the unique identification for any certain bus, the TYPE of the bus which could be Volvo or Non AC, JOURNEY DISTANCE covered by the bus in it's route, JOURNEY TIME of the total journey, TOTAL STOPS along the route, DEPARTURE STATION and the DESTINATION STATION of that bus. All the buses follow fixed BUS ROUTES.
- When someone signs up with our service, they (the **USER**) will be characterised by properties such as USER ID which will be uniquely generated and assigned to each user. The other characteristics will be NAME (composed of FIRST NAME and LAST NAME), BUS PASS number (optional), METRO CARD number (optional) and HOME STATION. USERS ride BUSES and METRO trains. USERS live near STATIONS that can be selected by them during the time of registration.
- **BOOKINGS** made through the service will be characterised by: BOOKING ID (uniquely generated), TO, FROM, USER ID (to link the user and the booking), TRANSPORT TYPE (Bus or Metro), and finally the COST taken for the journey. BOOKINGS are made for STATIONS by USERS.
- **METROs** are characterised primarily based on which line they run on (green/purple). They have the characteristics Departure Station and Destination Station.
- The **BUS ROUTES** in the city have a unique BUS NUMBER, and a composite attribute LOCATION which has multiple attributes depicting the location of the bus at different times, from 10:00 to 22:00. BUS ROUTES comprise of STATIONS.
- **STATIONS** are identified by a unique STATION CODE for every station, the full STATION NAME, thus it acts as a translator between station codes and station names, and its TRANSPORT TYPE (bus or metro station).

