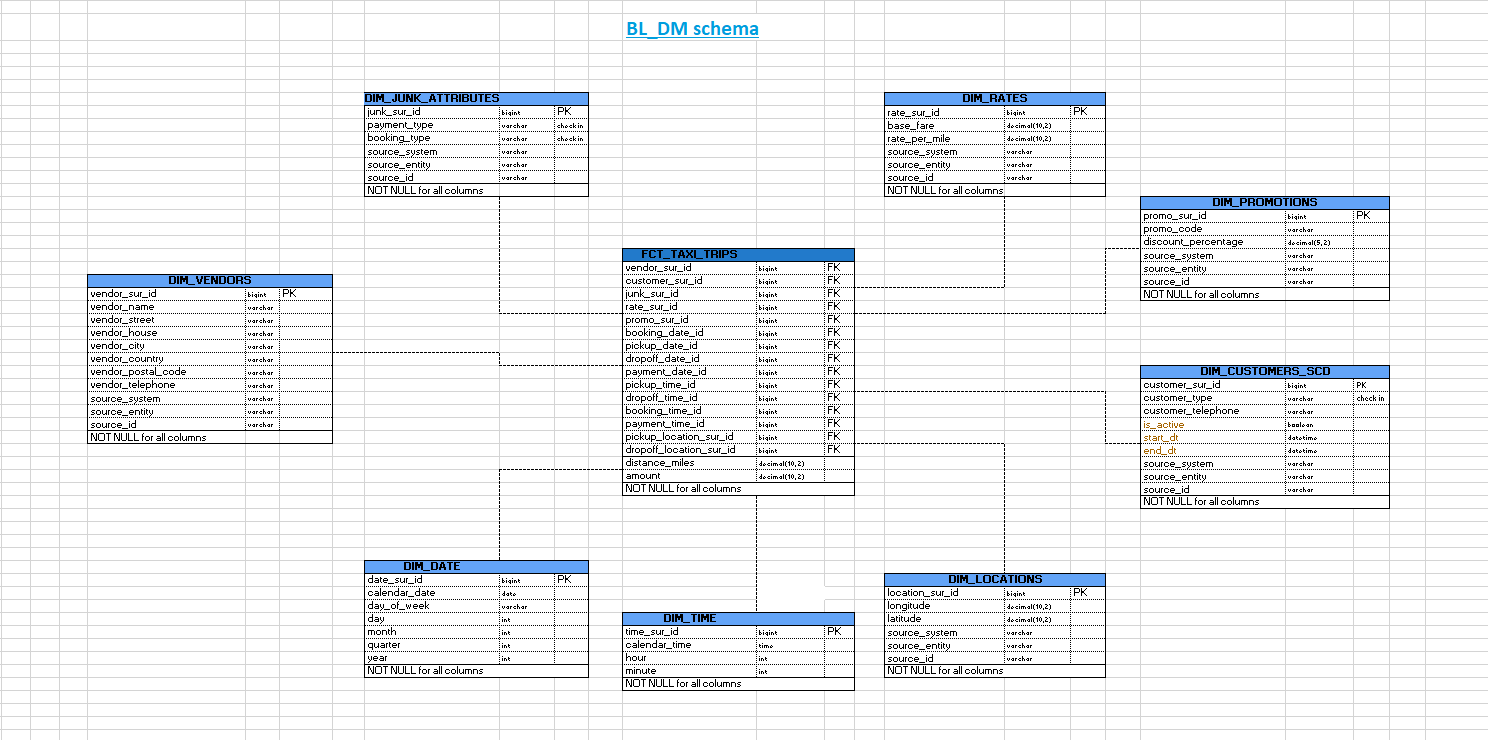


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| --- |
| **NYC taxi trip** |
|  |



# Business Layer Dimensional Model

## Logical Scheme



## **METRICS Description**

DIM\_JUNK\_ATTRIBUTES

* payment\_type: Describes the type of payment for a trip (e.g., Credit, Cash);
* booking\_type: Represents the type of booking (e.g., Phone/Street).

DIM\_RATES

* base\_fare: The initial charge for a trip, usually fixed;
* rate\_per\_mile: The charge for each mile traveled during the trip.

DIM\_PROMOTIONS

* promo\_code: The code for a specific promotion;
* discount\_percentage: The percentage discount offered by the promotion.

DIM\_VENDORS

* vendor\_name: The name of the vendor;
* vendor\_street: The street address of the vendor;
* vendor\_house: The house number of the vendor;
* vendor\_city: The city where the vendor is located;
* vendor\_country: The country where the vendor operates;
* vendor\_postal\_code: The postal code for the vendor;
* vendor\_telephone: The contact telephone number of the vendor.

DIM\_CUSTOMERS\_SCD (used SCD2)

* customer\_type: Defines the type of customer (e.g., Individual/Business);
* customer\_telephone: The telephone number of the customer;
* is\_active: Indicates whether the customer is currently active;
* start\_dt: The start date of the customer record;
* end\_dt: The end date of the customer record;
* pickup\_location\_sur\_id: A reference to the location where the customer was picked up;
* dropoff\_location\_sur\_id: A reference to the location where the customer was dropped off.

FCT\_TAXI\_TRIPS (fact table)

Context:

* vendor\_sur\_id: Foreign key referencing a vendor;
* customer\_sur\_id: Foreign key referencing a customer;
* rate\_sur\_id: Foreign key referencing a rate;
* promo\_sur\_id: Foreign key referencing a promotion;
* booking\_date\_id: Foreign key referencing the booking date;
* pickup\_date\_id: Foreign key referencing the pickup date;
* dropoff\_date\_id: Foreign key referencing the dropoff date;
* payment\_date\_id: Foreign key referencing the payment date;
* pickup\_time\_id: Foreign key referencing the pickup time;
* dropoff\_time\_id: Foreign key referencing the dropoff time;
* booking\_time\_id: Foreign key referencing the booking time;
* payment\_time\_id: Foreign key referencing the payment time.

Measurements:

* distance\_miles: The total distance traveled during the trip in miles;
* amount: The total fare amount for the trip.

DIM\_DATE

* calendar\_date: The date for the record;
* day\_of\_week: The name of the day (e.g., Monday, Tuesday);
* day: The day of the month;
* month: The month of the year;
* quarter: The quarter of the year;
* year: The year of the trip or record;

DIM\_TIME

* time\_sur\_id: Primary key for time records;
* calendar\_time: The specific time during the day;
* hour: The hour part of the time;
* minute: The minute part of the time.

DIM\_LOCATIONS

* longitude: The longitude of the location;
* latitude: The latitude of the location.

These metrics cover the various elements of a taxi trip, such as rates, vendors, customers, locations, time and promotions. The main fact table (FCT\_TAXI\_TRIPS) will likely be used to store transactional data about each trip.

# Logical Scheme

# Data Flow

# Fact Table Partitioning Strategy