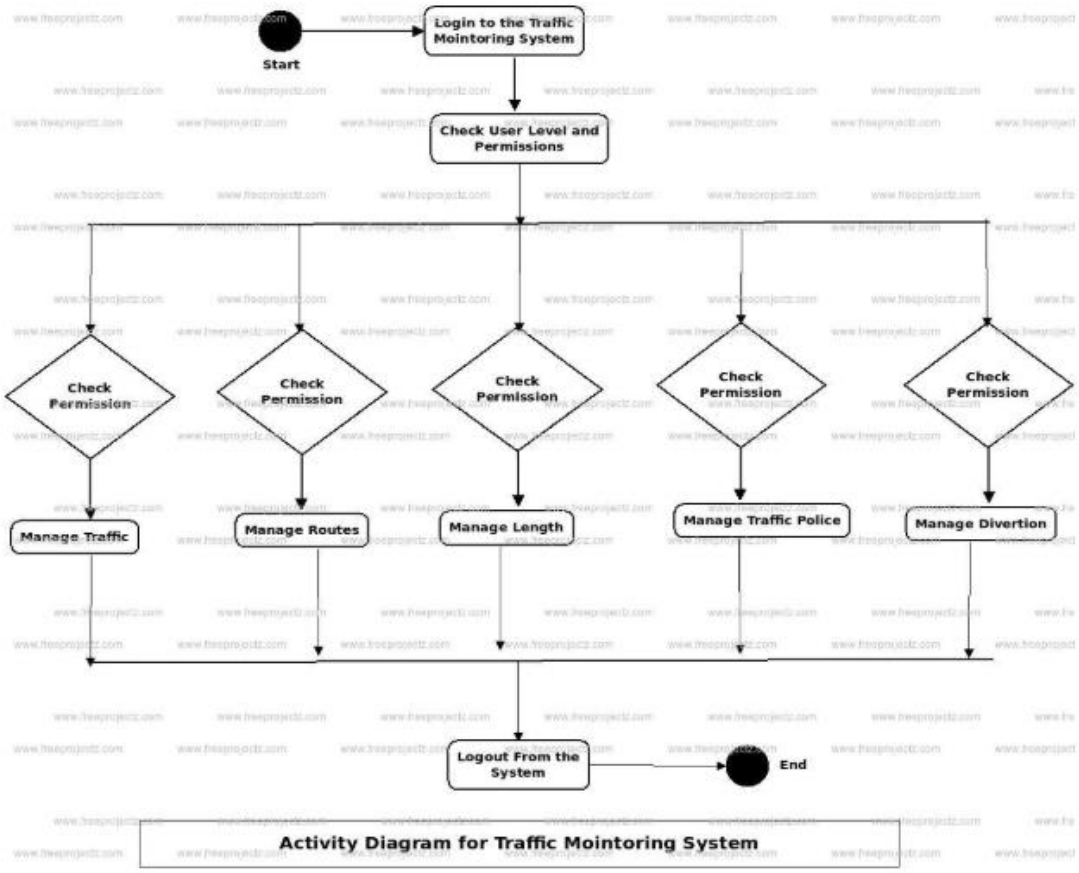
Detailed Design OF Traffic Monitoring System

1. Traffic Monitoring System Activity Diagram:

This is the Activity UML diagram of Traffic Monitoring System which shows the flows between the activity of Length, Traffic, Divertions, Traffic Polices, Routes. The main activity involved in this UML Activity Diagram of Traffic Monitoring System are as follows:

- Length Activity
- Traffic Activity
- Divertions Activity
- Traffic Polices Activity
- Routes Activity



1.1 Traffic Monitoring Class Diagram:

Traffic Monitoring System Class Diagram describes the structure of a Traffic Monitoring System classes, their attributes, operations (or methods), and the relationships among objects. The main classes of the Traffic Monitoring System are Traffic, Routes, Length, Traffic Polices, Divertions, Vehicle Types.

Classes of Traffic Monitoring System Class Diagram:

- **Traffic Class**: Manage all the operations of Traffic.
- **Routes Class:** Manage all the operations of Routes
- **Length Class:** Manage all the operations of Length.
- **Traffic Polices Class:** Manage all the operations of Traffic Polices.
- **Divertions Class:** Manage all the operations of Divertions.
- **Vehicle Types Class**: Manage all the operations of Vehicle Types.

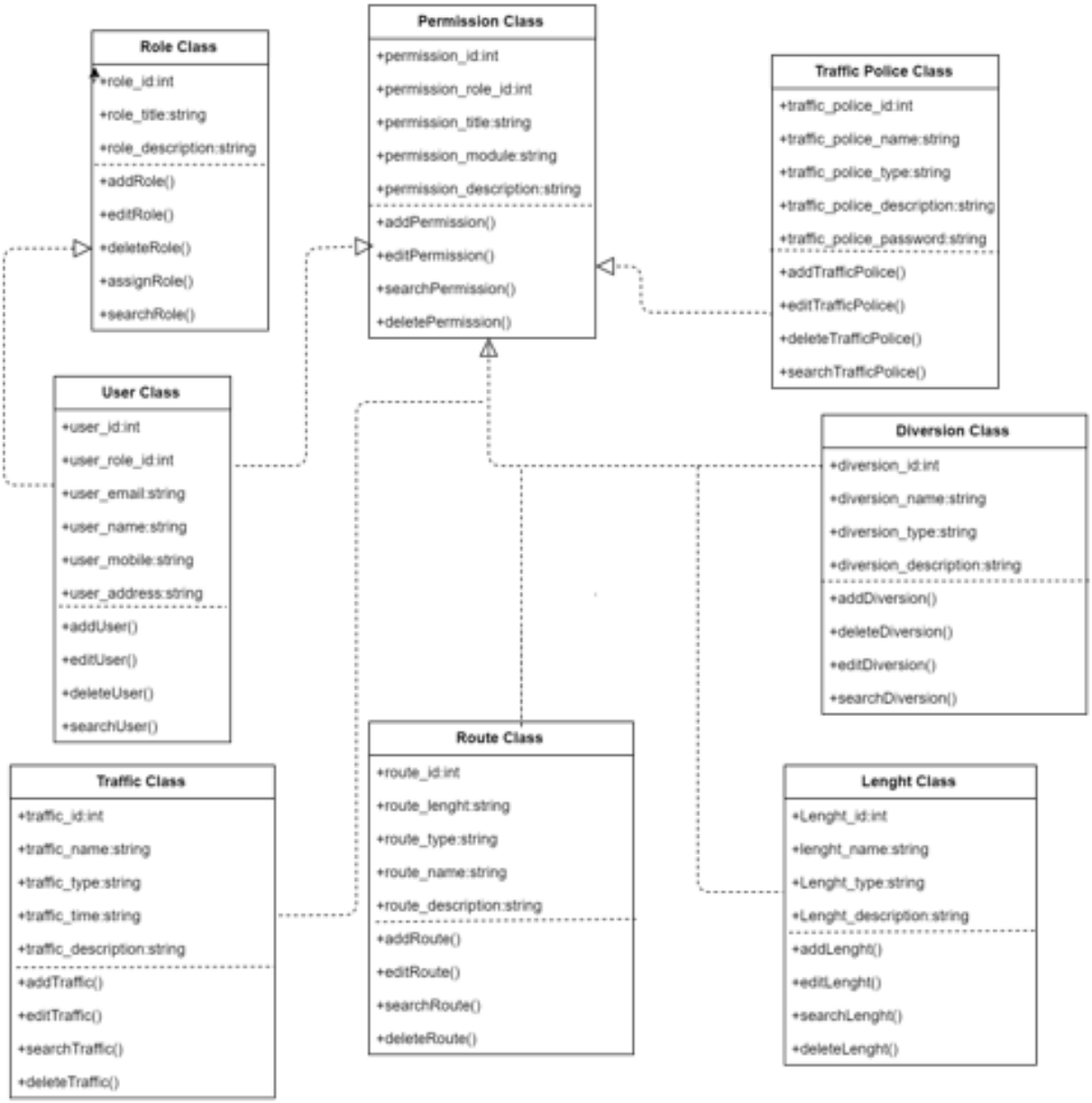
Classes and their attributes of Traffic Monitoring System Class Diagram:

- **Traffic Attributes**: traffic_id, traffic_name, traffic_type, traffic_description.
- **Routes Attributes**: route_id, route_name, route_type, route_description.
- **Length Attributes:** length_id, length_name, length_type, length_description.
- **Traffic Polices Attributes:** traffic_police_id, traffic_police_college_id, traffic_police_name, traffic_police_mobile, traffic_police_email, traffic_police_username, traffic_police_password, traffic_police_address.
- **Divertions Attributes:** divertion_id, divertion_name, divertion_type, divertion_description.
- **Vehicle Types Attributes:** vehicle_type_id, vehicle_type_customer_id, vehicle_type_number, vehicle_type_description

Classes and their methods of Traffic Monitoring System Class Diagram:

- **Traffic Methods**: addTraffic(), editTraffic(), deleteTraffic(), updateTraffic(), saveTraffic(), searchTraffic()
- **Routes Methods**: addRoutes(), editRoutes(), deleteRoutes(), updateRoutes(), saveRoutes(), searchRoutes()
- **Length Methods**: addLength(), editLength(), deleteLength(), updateLength(), saveLength(), searchLength()
- **Traffic Polices Methods**: addTraffic Polices(), editTraffic Polices(), deleteTraffic Polices(), updateTraffic Polices(), saveTraffic Polices(), searchTraffic Polices()
- **Divertions Methods:** addDivertions(), editDivertions(), deleteDivertions(), updateDivertions(), saveDivertions(), searchDivertions()
- **Vehicle Types Methods:** addVehicle Types(), editVehicle Types(), deleteVehicle Types(), updateVehicle Types(), saveVehicle Types(), searchVehicle Types()

Class Diagram of Traffic Monitoring System:

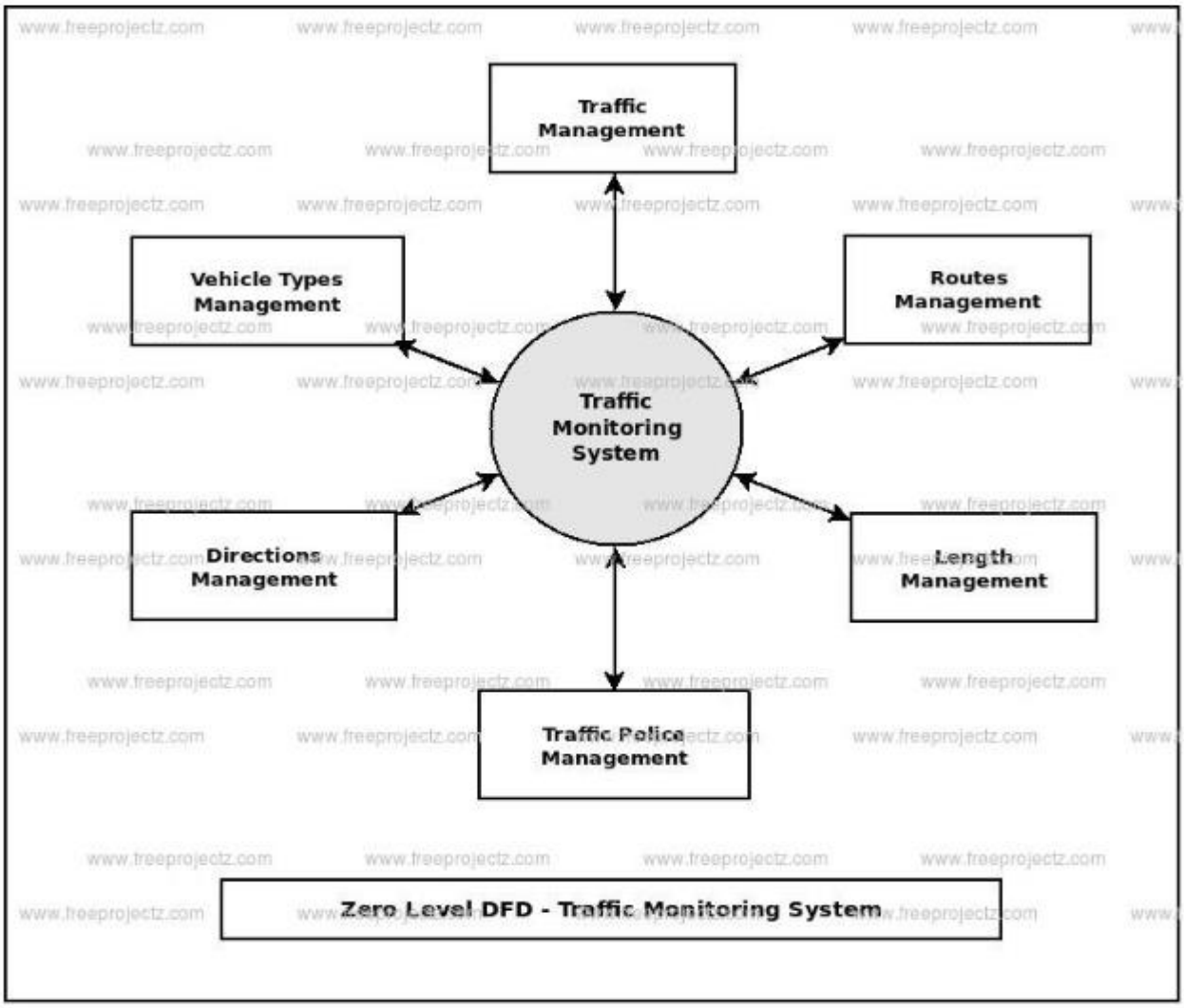


1.2 Traffic Monitoring System Dataflow Diagram:

Traffic Monitoring System Data flow diagram is often used as a preliminary step to create an overview of the Traffic without going into great detail, which can later be elaborated.it normally consists of overall application dataflow and processes of the Traffic process. It contains all of the userflow and their entities such all the flow of Traffic, Routes, Length, Traffic Police, Diversions, Vehicle Type, Login. All of the below diagrams has been used for the visualization of data processing and structured design of the Traffic process and working flow.

1.2.1 Zero Level Data flow Diagram(0 Level DFD) of Traffic Monitoring System :

This is the Zero Level DFD of Traffic Monitoring System, where we have eloborated the high level process of Traffic. It's a basic overview of the whole Traffic Monitoring System or process being analyzed or modeled. It's designed to be an at-a-glance view of Diversions,Vehicle Type and Login showing the system as a single high-level process, with its relationship to external entities of Traffic,Routes and Length. It should be easily understood by a wide audience, including Traffic,Length and Diversions In zero leve DFD of Traffic Monitoring System, we have described the high level flow of the Traffic system.



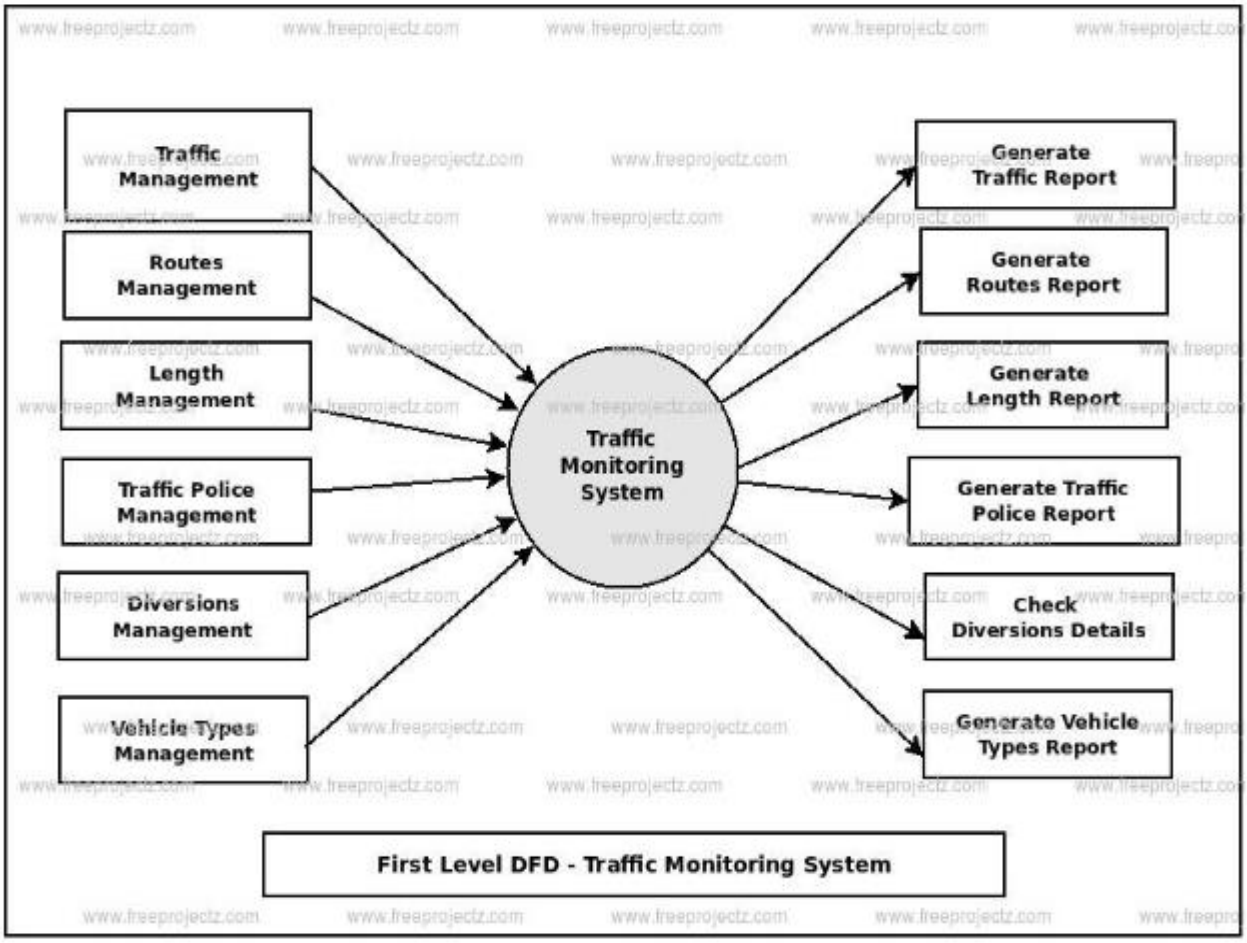
1.2.2 First Level Data flow Diagram(1st Level DFD) of Traffic Monitoring System :

First Level DFD (1st Level) of Traffic Monitoring System shows how the system is divided into sub-systems (processes), each of which deals with one or more of the data flows to or from an external agent, and which together provide all of the functionality of the Traffic Monitoring System system as a whole. It also identifies internal data stores of Login, Vehicle Type, Diversions, Traffic Police, Length that must be present in order for the Traffic system to do its job, and shows the flow of data between the various parts of Traffic, Length, Vehicle Type, Login, Diversions of the system. DFD Level 1 provides a more detailed breakout of pieces of the 1st level DFD. You will highlight the main functionalities of Traffic.

Main entities and output of First Level DFD (1st Level DFD):

- Processing Traffic records and generate report of all Traffic

- Processing Routes records and generate report of all Routes
- Processing Length records and generate report of all Length
- Processing Traffic Police records and generate report of all Traffic Police
- Processing Diversions records and generate report of all Diversions
- Processing Vehicle Type records and generate report of all Vehicle Type
- Processing Login records and generate report of all Login



1.2.3 Second Level Data flow Diagram(2nd Level DFD) of Traffic Monitoring System :

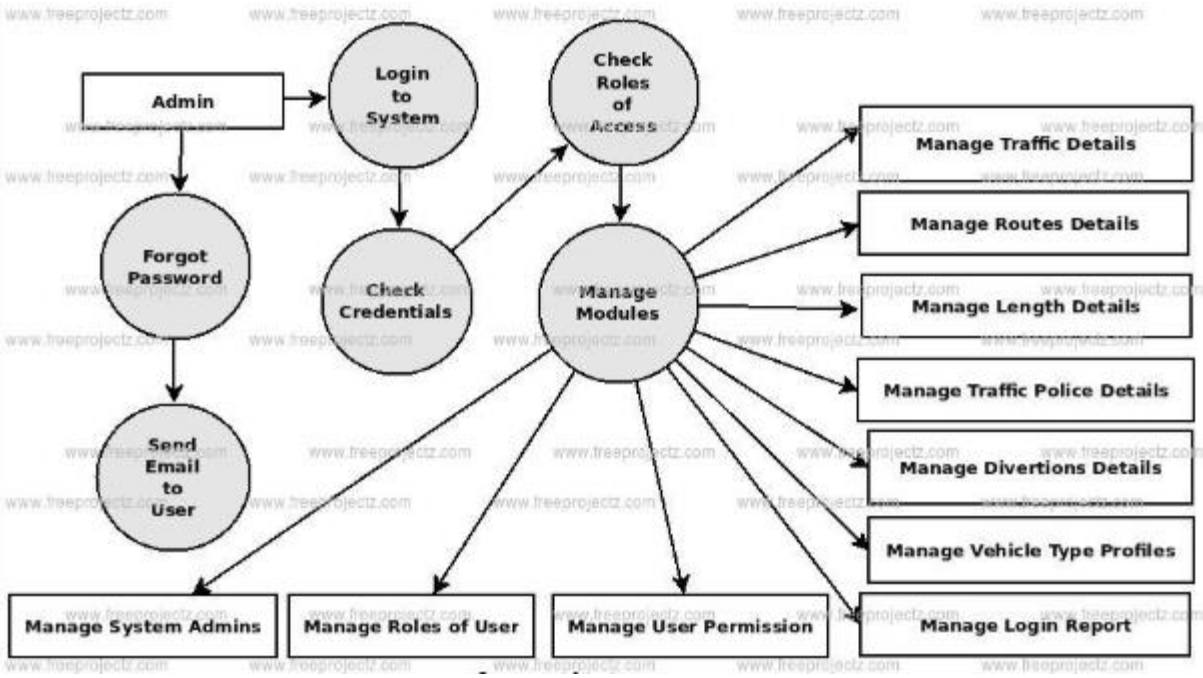
DFD Level 2 then goes one step deeper into parts of Level 1 of Traffic. It may require more functionalities of Traffic to reach the necessary level of detail about the Traffic functioning. First Level DFD (1st Level) of Traffic Monitoring System shows how the system is divided into sub-systems (processes). The 2nd Level DFD contains more details of Login, Vehicle Type, Diversions, Traffic Police, Length, Routes, Traffic.

Low level functionalities of Traffic Monitoring System

- Admin logins to the system and manage all the functionalities of Traffic Monitoring System
- Admin can add, edit, delete and view the records of Traffic, Length, Diversions, Login.
- Admin can manage all the details of Routes, Traffic Police, Vehicle Type
- Admin can also generate reports of Traffic, Routes, Length, Traffic Police, Diversions, Vehicle Type

- Admin can search the details of Routes, Diversions, Vehicle Type
- Admin can search the details of Routes, Diversions, Vehicle Type
- Admin can tracks the detailed information of Routes, Length, Traffic Police, , Diversions

Second Level DFD -Traffic Monitoring System:



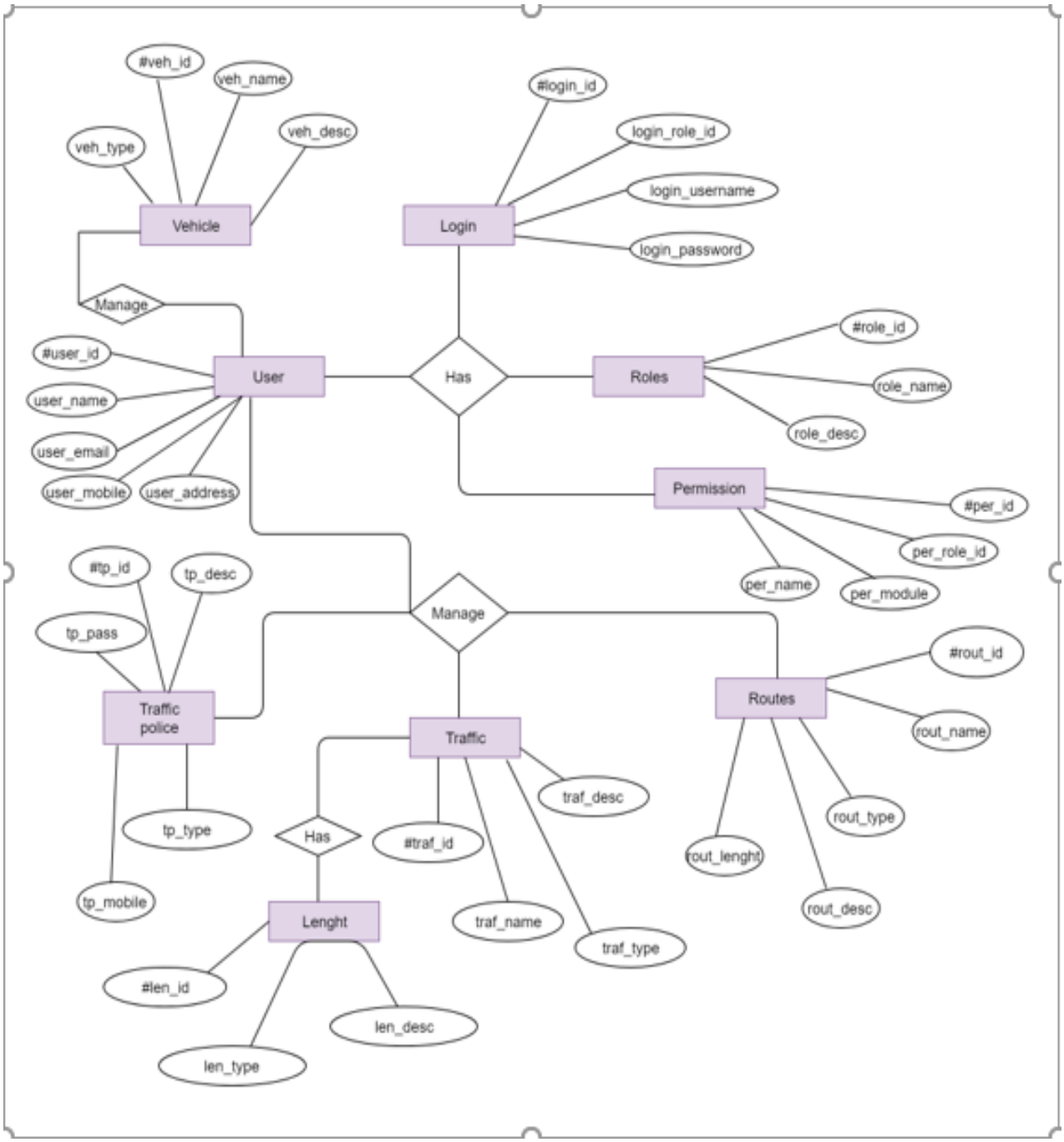
1.3 Traffic Monitoring System ER Diagram:

This ER (Entity Relationship) Diagram represents the model of Traffic Monitoring System Entity. The entity-relationship diagram of Traffic Monitoring System shows all the visual instrument of database tables and the relations between Routes, Traffic Polices, Traffic, Vehicle Types etc. It used structure data and to define the relationships between structured data groups of Traffic Monitoring System functionalities. The main entities of the Traffic Monitoring System are Traffic, Routes, Length, Traffic Polices, Divertions and Vehicle Types.

Traffic Monitoring System entities and their attributes :

- **Traffic Entity:** Attributes of Traffic are traffic_id, traffic_name, traffic_type, traffic_description
- **Routes Entity:** Attributes of Routes are route_id, route_name, route_type, route_description
- **Length Entity:** Attributes of Length are length_id, length_name, length_type, length_description
- **Traffic Polices Entity:** Attributes of Traffic Polices are traffic_police_id, traffic_police_college_id, traffic_police_name, traffic_police_mobile, traffic_police_email, traffic_police_username, traffic_police_password, traffic_police_address
- **Divertions Entity:** Attributes of Divertions are divertion_id, divertion_name, divertion_type, divertion_description
- **Vehicle Types Entity:** Attributes of Vehicle Types are vehicle_type_id, vehicle_type_customer_id, vehicle_type_number, vehicle_type_description

ER Diagram For Traffic Monitoring System:



1.4 Schema diagram For Traffic Monitoring System: