

Entities:

- **Person:** Identified by personID, includes attributes (personID, personName, dateOfBirth); superclass of Driver and Rider.
- **Driver:** A subclass of Person, includes attributes (driverType, salary, licenseNum).
- **Rider:** A subclass of Person, includes attributes (phoneNum, wheelChairAccess).
- **Complaint:** A weak entity identified by a composite key (personID, timeOfSubmission), with attributes (personID, timeOfSubmission, complaintCategory).
- **Trip:** Identified by tripID, includes attributes (tripID, startTime, directionOfTravel, wheelChairAccess).
- **Route:** Identified by routeID, includes attributes (routeID, routeName, routeType).
- **ServiceAlert:** Identified by serviceAlertID, includes attributes (serviceAlertID, description).
- **WeeklyScheduleBySTM:** Identified by scheduleID, includes attributes (scheduleID, scheduleEndDate, scheduleStartDate, bitmap).
- **Stop:** Identified by stopID, includes attributes (stopID, stopName, wheelChairAccess, stopType).
- **VehicleBySTM:** Identified by licensePlate, includes attributes (licensePlate, vehicleBySTM_Type, manufacturedYear, capacity).

Relationships:

- **IsA:** Generalization relationship between Person, Rider, and Driver, where Person is the parent with two children Rider and Driver; overlapping and total specialization.
- **Submits:** Makes connection between Complaint and Rider, supporting many-one relationship from Complaint to Rider.
- **SubmittedFor:** Makes connection between Complaint and Trip, many-one relationship from Complaint and Trip.
- **Takes:** Makes connection between Rider and Trip, many-many relationship from Rider to Trip, includes dateOfTrip attribute.
- **IsAssigned:** Makes connection between Trip and Driver, many-one relationship from Trip to Driver.
- **Notifies:** Makes connection between ServiceAlert and Rider, many-many relationship from ServiceAlert to Rider.
- **Issues:** Makes connection between ServiceAlert and Route, many-many relationship from ServiceAlert to Route, includes startDate and endDate.

- **Occurs:** Makes connection between Trip and Route, many-one relationship from Trip to Route.
- **Uses:** Makes connection between Trip and WeeklyScheduleBySTM, many-one relationship from Trip to WeeklyScheduleBySTM.
- **Serves:** Makes connection between Trip to Stop, many-one relationship from Trip to Stop.
- **Runs:** Makes connection between Trip and VehicleBySTM, many-one relationship from Trip to VehicleBySTM.

Constraints:

- **IsA Constraint:** The IsA relationship between Person, Driver, and Rider is total (every person is at least one of the subtypes) and overlapping (a person can be both a driver and a rider).
- **Complaint:** Complaint is a weak entity, dependent on Person for identification.