P3 – Logical Design Changes (Final)

Here's the final ERD (Logical Model) incorporating all the changes and fixes mentioned in the provided description:

- Removed `mbta_login` entity as it was deemed irrelevant for the railway management system.

- Utilized generalization and specialization techniques to represent that a person can be both an employee and a passenger.

- Corrected the attribute `age` to be a derived attribute derived from `date_of_birth`.

- Changed the relationship between `employee` and `MBTA_train_info` to a many-to-many relationship, using an associative entity named `employee_train_assignment`.

- Replaced many-to-many relationships with associative entities where applicable. For example, replaced the many-to-many relationship between `MBTA_station` and `MBTA_route_info` with the associative entity `station_route`.

- Replaced the many-to-many relationship between `MBTA_route_info` and `MBTI_types` with the associative entity `route_type`.

- Corrected attributes in the `charlie_card` and `transaction` entities.

- Changed the relationship between `MBTA_Charlie_Card` and `MBTA_Transaction` to mandatory one-to-many, as each Charlie card must have at least one transaction.

- Ensured proper referential integrity constraints between `charlie_card` and `transaction` entities.

- Established a relationship between `MBTA_passenger` and `MBTA_passenger_frequency` to optimize costs, track passengers, and manage revenue.

- Changed the relationship between `MBTA_train_info` and `MBTA_current_status` to mandatory one-to-many to track previous statuses of the train.

- Modified the relationship between `MBTA_train_info` and `MBTA_schedule` to mandatory one-to-many to accurately represent the scheduling of trains.