Costa express ER diagram

Assumptions

Passengers do not need to have ridden a train to be inputted as passengers

Not every train needs passengers

All rail lines have routes and all routes have rail lines

Every stop has to belong to at least one route

Stations may be on multiple rail lines

Each train has its own schedule

Hours of operation is an interval

Entities

Station: station\_num, address, hours,

Rail Lines: rail\_id, speed\_limit

Route: route\_id

Train schedules: train\_schedule\_id, day , time

Trains: top speed, seats, price per mile, train\_id

Passengers: customer\_id, fname, lname, email, phone, address(street, city, zip)

Clock: p\_date,

Relationships

IS ON <Station,Station, Rail Lines> M:M:M, TOTAL/TOTAL/TOTAL, distance

FOLLOWS <train, Train Schedules> 1:1 TOTAL/TOTAL

RIDES <passengers,train> M:M PARTIAL/PARTIAL

TAKES <passengers, Route> M:M PARTIAL/PARTIAL

ARE PATHs DOWN <route, rail lines> 1:M TOTAL/TOTAL

RUN ALONG<train, route> M:M TOTAL/TOTAL

STOPS AT <route, station> M:M TOTAL/TOTAL

DETERMINES <train schedules, route> M:M TOTAL/TOTAL,