Project 4 Report

StreetMap:

* load()
  + **O (S \* log N)**
  + S is the total number of streets segments given in the map file.
  + N is the total number of associations inside the ExpendableHashMap at any given moment.
    - N starts off at zero, but increases by one every time a new association is made, so it averages to log N.
* getSegmentsThatStartWith()
  + **O (K)**
  + K is the average number of keys in a bucket at any given moment (load factor). Finding the bucket is done in constant time. Finding the particular key within the unordered list will on average take time equal to the number of keys in the bucket.

PointToPointRouter

* generatePointToPointRoute()
  + **O (K + V^2 )**
  + K is given by the calls within the function to getSegmentsThatStartWith().
  + V is the average distance from the start point to the end point.

DeliveryOptimizer

* optimizeDeliveryOrder()
  + **O (D \* V)**
  + D is the number of deliveries to be made
  + V is the average distance between each delivery location