**The Home Depot E-commerce Delivery Network Optimization Models**

**Definition:**

*Delivery Agent (DA):* A third party carrier facility which serves as a local distributor for Home Depot customer orders. There are more than 500 DAs in the U.S.

*DC:* Home Depot Distribution Center. A Home Depot DC ships customer orders through line haul to local DAs. There are 3 Home Depot DAs in the U.S.

*Zip Codes:* There are approximately 40,000 customer zip codes in Home Depot database.

**Transportation Process:**

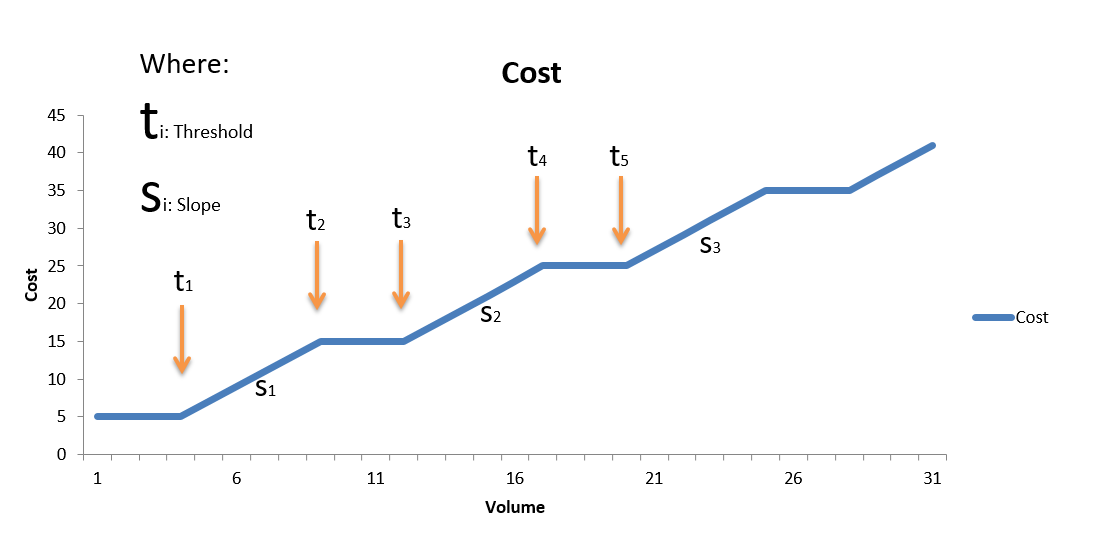
Home Depot DC 🡪 Delivery Agent 🡪 Customer zip codes

**1st Model - Last Mile Delivery Optimization:**

\*0.001 is inserted to break ties between two DAs with the same pricing option to avoid random results.

\*min number of customer zip codes is inserted to make sure the solution makes sense. A carrier may require at least certain range of customer coverage to do business with Home Depot.

**2nd Model – Line Haul + Last Mile Delivery Optimization:**



**Figure 1: are thresholds between each price tier and are slopes between each price tier in average Line Haul Pricing from DCs to DAs.**

from Home Depot DCs

\*1000 is inserted as the large number M