

WonderMarket Client Report

Thank you for choosing our firm to optimise your goods transport project.

Based on your initial enquiry, the optimal transport cost is \$162259. Without any limitation on distribution centres provided, you can achieve the minimal cost by sending all your goods from DC1. Below is shown the above mentioned result from our Computer program, where rows are stores and columns are distribution centres:

DC0 DC1 DC2

0.0	12.0	0.0
0.0	12.0	0.0
0.0	10.0	0.0
0.0	21.0	0.0
0.0	6.0	0.0
0.0	10.0	0.0
0.0	12.0	0.0
0.0	11.0	0.0
0.0	8.0	0.0
0.0	14.0	0.0

Based on further negotiations, we realised it is not possible for you to distribute everything from your DC1 distribution centre. Considering the limitations on capacities provided by your company, the optimal cost would be \$187388. You can achieve this number by switching your distribution centre for your S0, S1 and S4 store from DC1 to DC2, and for your S8 and S9 store from DC1 to DC0. It is also advised to send One truckload from DC0 instead of DC1 for your S5 store. The results come from our Python(Computer programming) code:

DC0 DC1 DC2

0.0	0.0	12.0
0.0	0.0	12.0
0.0	10.0	0.0
0.0	21.0	0.0
0.0	0.0	6.0
1.0	9.0	0.0
0.0	12.0	0.0
0.0	11.0	0.0
8.0	0.0	0.0
14.0	0.0	0.0

One of your managers has pointed out that the two distribution centres on the north side of the river actually share a labour pool. This adds a new constraint to our model and slightly increases the optimal cost to \$189468. The updated optimal distribution pattern is as follows:

DC0 DC1 DC2

0.0	0.0	12.0
0.0	2.0	10.0
0.0	10.0	0.0
0.0	21.0	0.0
0.0	6.0	0.0
9.0	1.0	0.0
0.0	12.0	0.0
0.0	11.0	0.0
8.0	0.0	0.0
14.0	0.0	0.0

As shown above, for your S1 store, you may want to send 2 truckloads from DC1 instead of DC2. For your S4 store it is advised to switch to DC1 again. For S5 store, you may allocate 9 truckloads from DC0 and one truckload from DC1.

Thank you very much.