An animal feed distribution company based in Alzira must serve more than twenty clients daily. An example of a typical day can be found in the following table.

Towns	# Pallets	X	Y
ALBORACHE	17	-7,5	7,5
ALCACER	2	-0,25	6,75
ALCUDIA DE CARLET	6	-1,5	1,5
ALGEMESÍ	2	0,00001	1
ALMOINES	12	5,5	-6,5
BENIFAIÓ	4	0,0001	4
BENIGANIM	6	-0,25	-6,5
CARCAIXENT	2	-0,5	-1
CARLET	4	-2	2,5
CHIVA	6	-6,25	10,25
DENIA	6	12	-9,75
L´OLLERIA	12	-2,5	-7,5
LLOMBAI	4	-3	4,25
ONTINYENT	12	-3,75	-10,25
SILLA	4	0,5	6,85
SUECA	12	2,75	1,65
TAVERNES DE LA VALLDIGNA	4	3,75	-2,5
VILANOVA DE CASTELLO	6	-1,75	2,5
XATIVA	12	-2	-5

The matrix of distances between the towns is given in the above table. It is assumed that loading a truck takes around 45 minutes and unloading the truck in each customer's company location takes about 30 minutes on average. No driver must dedicate more than 8 hours a day to driving or working more than a total of 12 hours a day. The average speed of each truck is 60 Kilometers / hour.

The company has 3 types of trucks:
   a) Trucks which are 7 meters long and 2 meters wide. The cost (€) per kilometer is 0.25.
   b) Trucks which are 10 meters long and 2.3 meters wide. The cost (€) per kilometer is 0.3.
   c) Trailers which are 12.5 meters long and 2.5 meters wide. The cost (€) per kilometer is 0.35.

Propose a mathematical programming model in order to:
   1. Determine the most suitable routes to ensure a daily service.
   2. Consider that delivery does not have to be made on a daily basis. However, if the delivery made is higher than the daily demand, you have to pay for the excess of stock at the client's location. Each pallet stored implies a cost of 0.1 € / (pallet * day).
   3. Consider that there are some time-windows for loading/unloading trucks.