**Set up the pick-up location for online shopping organization**

When more people choosing online shopping, more delivery company will be used, such as UPS, DHL, Royal Mail. It is a big challenge and stress for the companies to deliver to in person. Also, in the busy society, people are not usually at home. So it is important to set some pick up point, it can ensure packages’ safety, but also can reduce to workload of delivery in order to reduce the cost.

## The two variables:

i: different potential pick up points(such as: Oshea North, GS campus…)

j: different zones that has demand()

so we need to maximum the demand to satisfied. So, we need to maximize the:

Xij is the decision variable related to the flow of package items from pick up point to demand zones.

We also need to minimize the cost:

## Constraints:

*Cij*: transportation cost from i to j (data)

*Fixed cost(i)*: the fixed cost of setting up a pick up point at I (data)

*Cap(i)*: pick up point’s capability of (i)

*Max\_number\_depots*: maximum number of setting up pick up points for the overall zone

*Investment:* total spend should less than the investment