- n customers, indexed by $i = 1, 2, \ldots, n$

- m potential sites for facilities, indexed by $j = 1, 2, \ldots, m$

- $x_{ij} \geq 0$: a continuous variable representing the amount serviced from facility j to demand point i.

- $y_j \in \{0, 1\}$: a binary variable where $y_j = 1$ if a facility is established at location j, and $y_j = 0$ otherwise.

- f_j: a yearly activation cost for site j, representing an annual leasing expense incurred for using the facility, independent of the volume it services.

- M_j: the maximum volume that may be handled yearly by facility j.

- c_{ij}: the transportation cost per unit serviced from facility j to demand point i.

$$\min \left(\sum_{j=1}^{m} f_j y_j + \sum_{i=1}^{n} \sum_{j=1}^{m} c_{ij} x_{ij} \right)$$

$$\sum_{j=1}^{m} x_{ij} = d_i \qquad \text{for } i = 1, \ldots, n$$

$$\sum_{i=1}^{n} x_{ij} \leq M_j y_j \qquad \text{for } j = 1, \ldots, m$$

$$x_{ij} \leq d_i y_j \qquad \text{for } i = 1, \ldots, n; \ j = 1, \ldots, m$$

$$x_{ij} \geq 0 \qquad \text{for } i = 1, \ldots, n; \ j = 1, \ldots, m$$

$$y_j \in \{0, 1\} \qquad \text{for } j = 1, \ldots, m$$