**Sets and Parameters**

* *J*: Set of cities where fire stations can be located J*={*1,2,3,4,5,6}
* *Tij*: Time taken to travel between city *i* and city *j* (from the table).
* *d*=15: Maximum travel time for a city to be covered by a fire station.

**Decision Variables:**

* *xj*∈{0,1}:
  + *xj*=1 if a fire station is built in city *j*.
  + *xj*=0 otherwise.

**Objective Function**

**Constraints**

* *x1*​+*x2*​≥1
* *x1*​+*x2*​+*x3*​≥1
* *x2*​+*x3*​+*x4*​≥1
* *x2*​+*x3*​+*x4*​≥1
* *x3*​+*x4*​+*x5*​≥1
* *x4*​+*x5*​+*x6*​≥1
* *x5*​+*x6*​≥1​

**Binary Constraints**

* *xj*​∈{0,1}, ∀*j*∈*J*