

Number Of Restaurants In London

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Number of restaurants in London

Approach:-

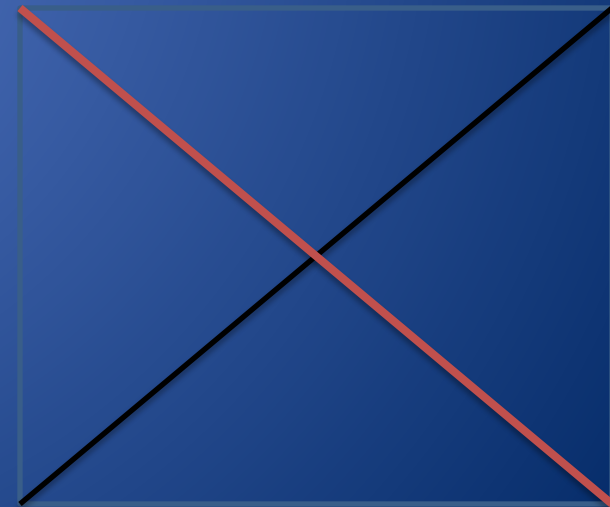
Restaurants are located at the sides of the roads, generally, major roads are highway. So we can estimate the length of the road (major roads & highway) and then place two restaurants at a suitable distance.

Area of London

Assume London to be a square with metro's red and black as show in the figure.

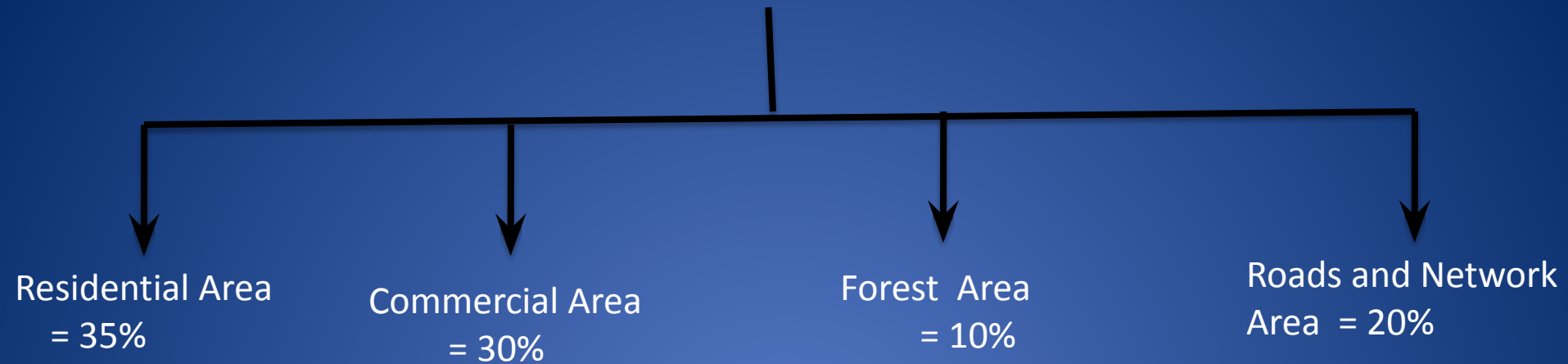
We assume that there are 30 stations each in both the metro routes and average distance between two stations being **2KM**.

**Approx Area = $\frac{1}{2} * 60 * 60 = 1800$ Sq. KM
Of London**



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London Region



Area of Roads in London = 20% of 1800 sq KM
= 360 sq KM

We can take it approx ~ 350 sq Km

Roads Maintains

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graph TD; RM[Roads Maintains] --> MR[Municipal Roads 35%]; RM --> SR[State Roads 50%]; RM --> CGR[Central Govt. Roads 15%];
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A

**Municipal Roads
35%**

Almost ~ 125 sq KM

Generally society roads have more restaurants and It have restaurants on distance of 0.25 Km. With the width of 15m

B

**Central Govt. Roads
15%**

Almost ~50 sq Km

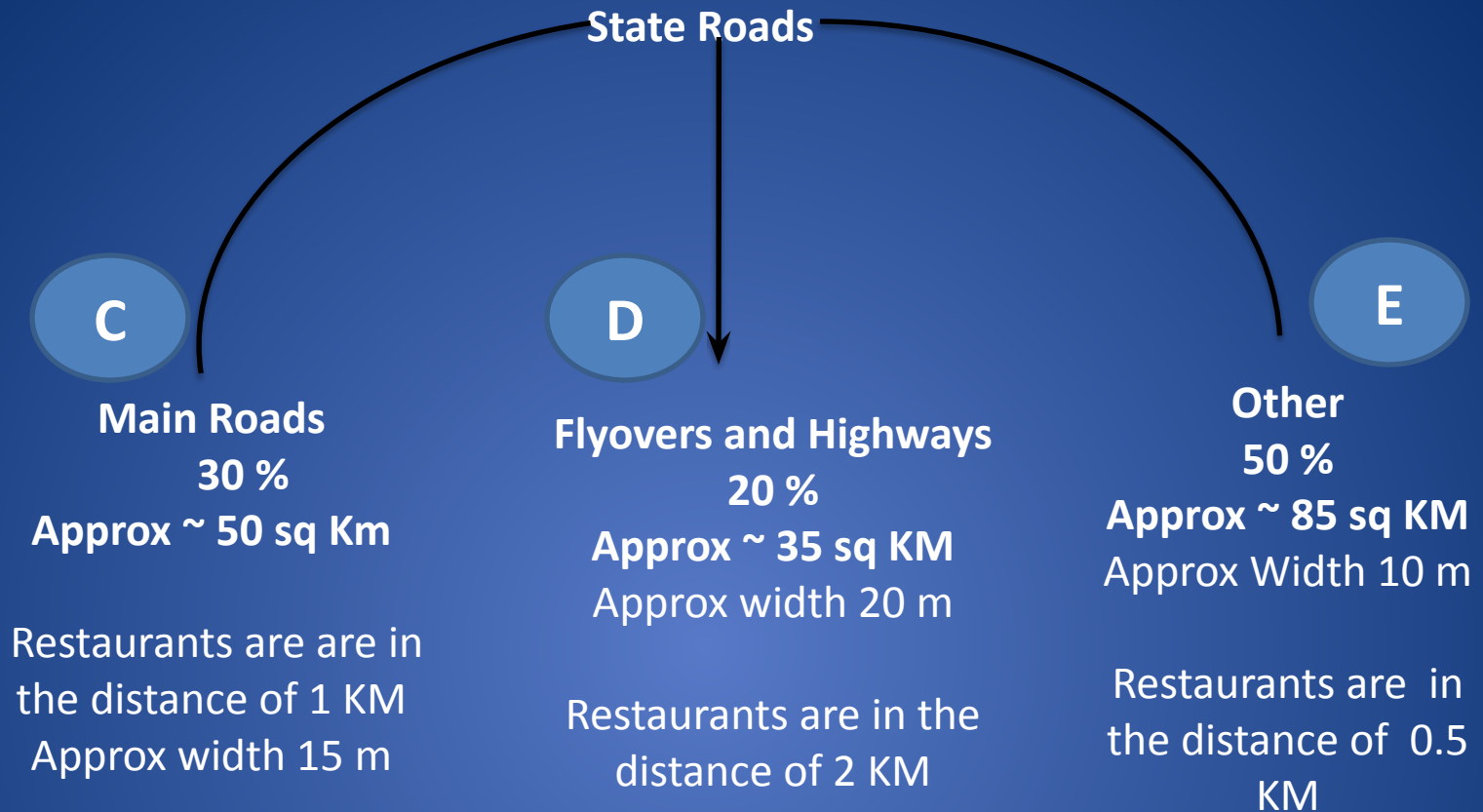
Generally Highway are in these roads so restaurants are on some good distance like 2 Km

With the width of 25m

**State Roads
50%**

Almost ~ 175 sq Km

These types of roads have many parts



Length of Roads

- A) $(125 \text{ sq KM})/15\text{m} = 8333.33 \text{ KM} \sim 8333 \text{ KM}$
- B) $(50 \text{ sq KM})/25\text{m} = 2000 \text{ KM}$
- C) $(50 \text{ sq KM})/15\text{m} = 3333.33 \text{ KM} \sim 3333 \text{ KM}$
- D) $(35 \text{ sq KM})/20\text{m} = 1750 \text{ KM}$
- E) $(85 \text{ sq KM})/10\text{m} = 8500 \text{ KM}$

Number of Restaurants

- A) $8333 \text{ KM}/0.25 \text{ KM} = 33332$
- B) $2000 \text{ KM} / 2 \text{ KM} = 1000$
- C) $3333 \text{ KM} / 1 \text{ KM} = 3333$
- D) $1750 \text{ KM} / 2 \text{ KM} = 875$
- E) $8500 \text{ KM}/0.5 \text{ KM} = 17000$

Total = 55540 Restaurants

Thank You