

Range

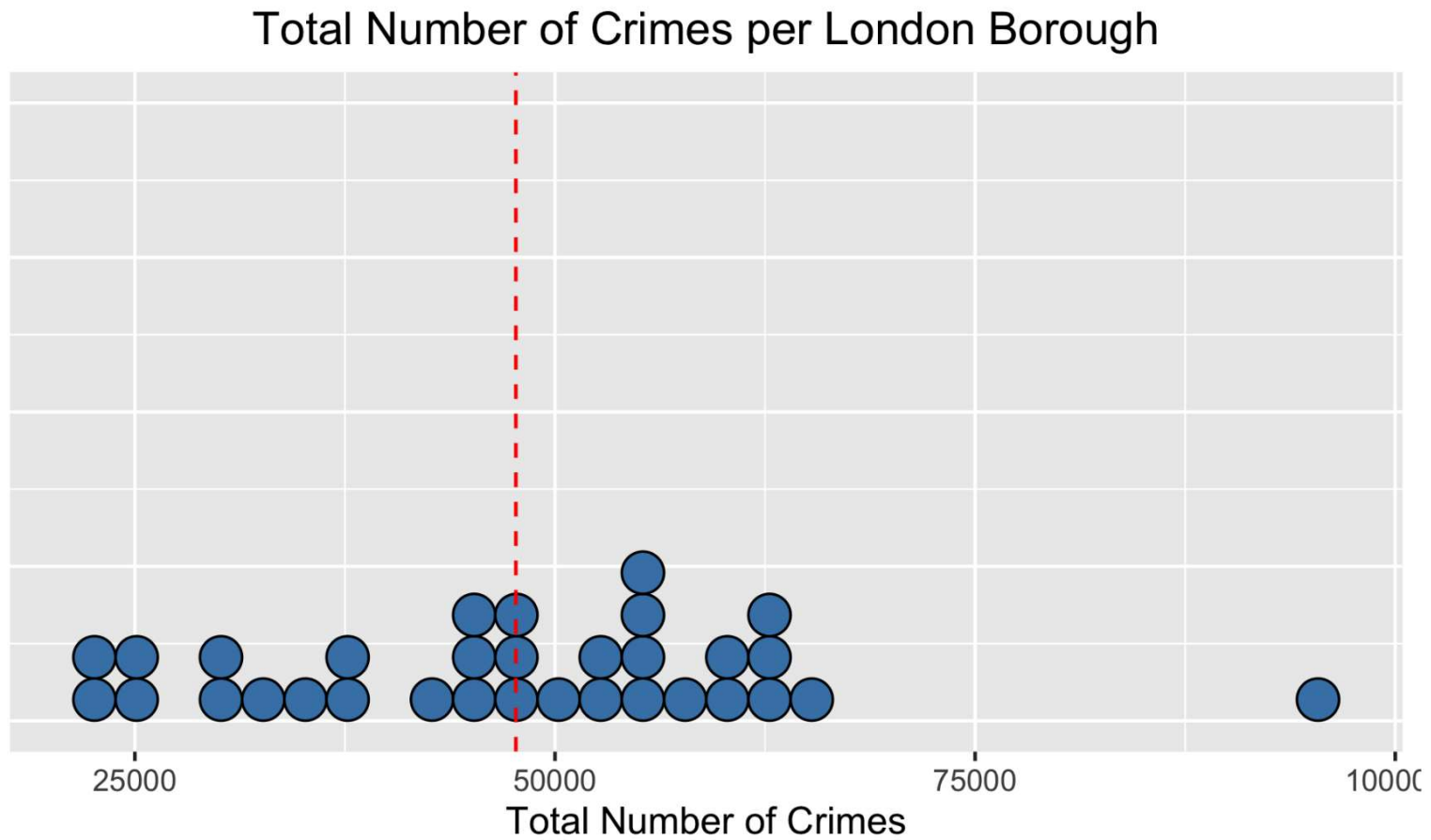
range = maximum – minimum

range(Burglaries) = 5,183 – 1,432

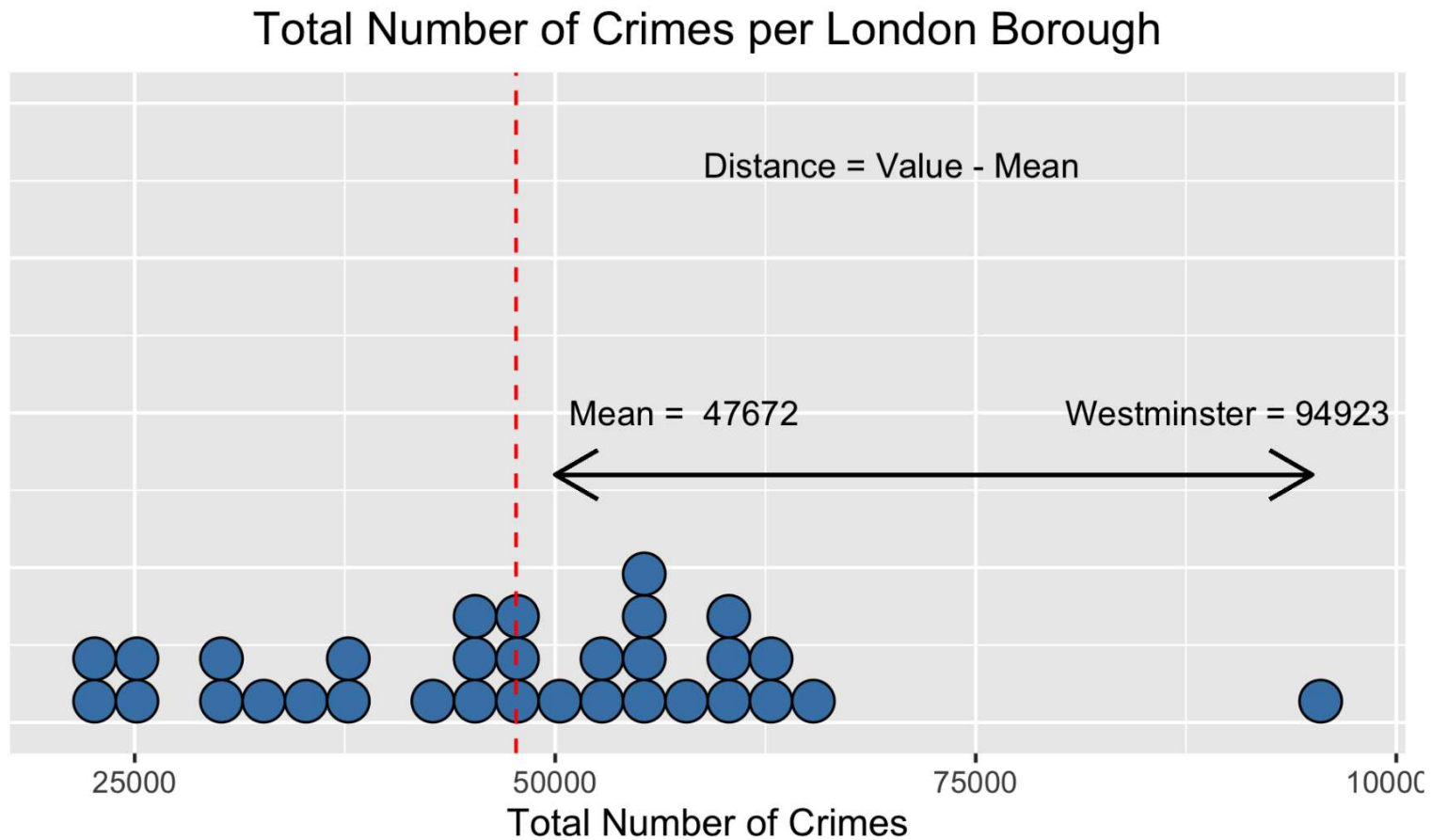
range(Burglaries) = 3,751

Borough	Burglary
Tower Hamlets	5,183
Hackney	5,079
Barnet	5,067
...	...
Sutton	1,815
Bexley	1,583
Kingston upon Thames	1,432

Variance



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$$\text{variance}(\text{total crime}) = \frac{7,509,750,824}{32}$$

$$\text{variance}(\text{total crime}) = 234,679,713$$

Standard deviation

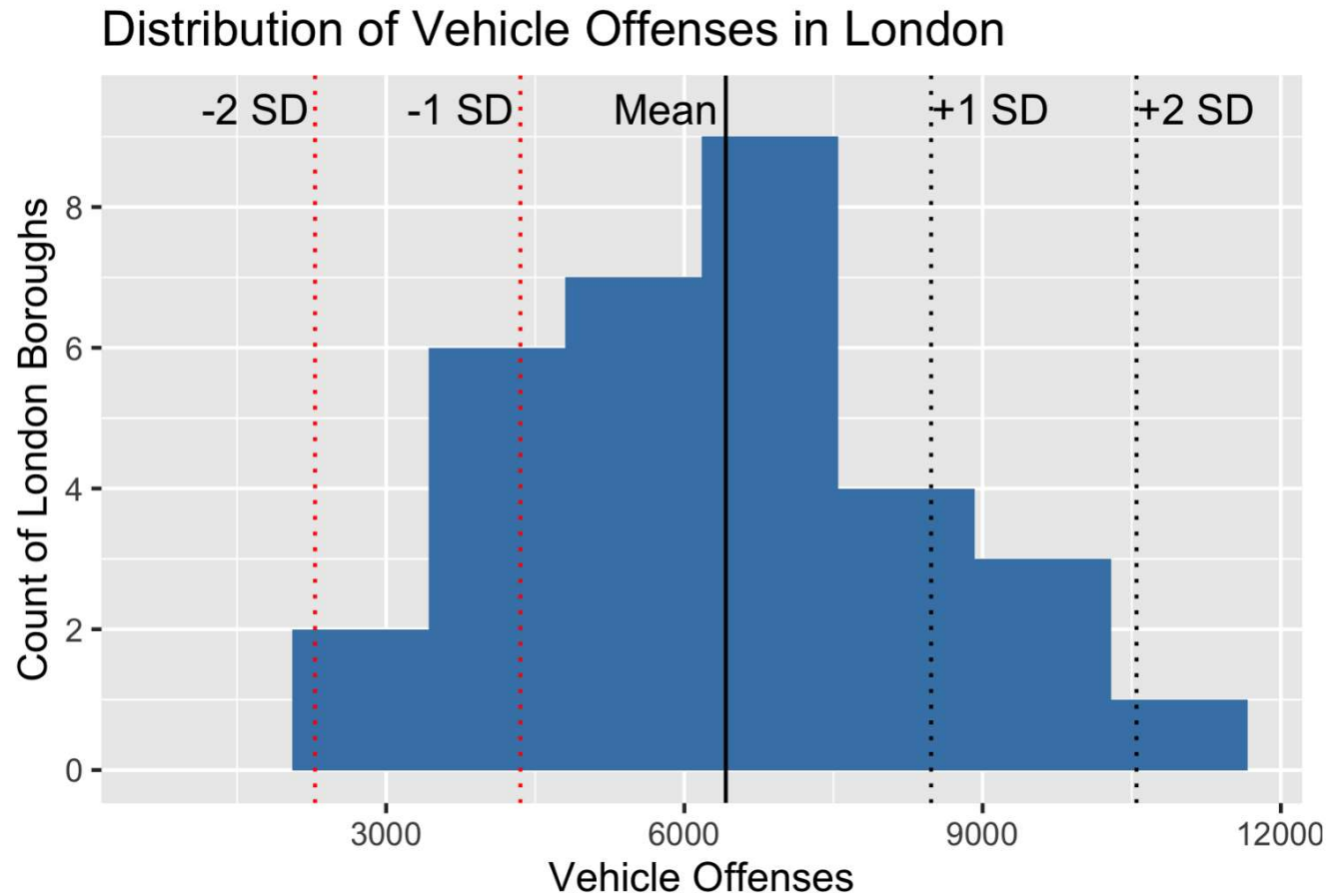
$$\text{standard deviation}(\text{total crime}) = \sqrt{\text{variance}(\text{total crime})}$$

$$\text{standard deviation}(\text{total crime}) = \sqrt{234,679,713}$$

$$\text{standard deviation}(\text{total crime}) = 15,319.26$$

- Standard deviation close to zero = data clustered around the mean

Standard deviation in a histogram



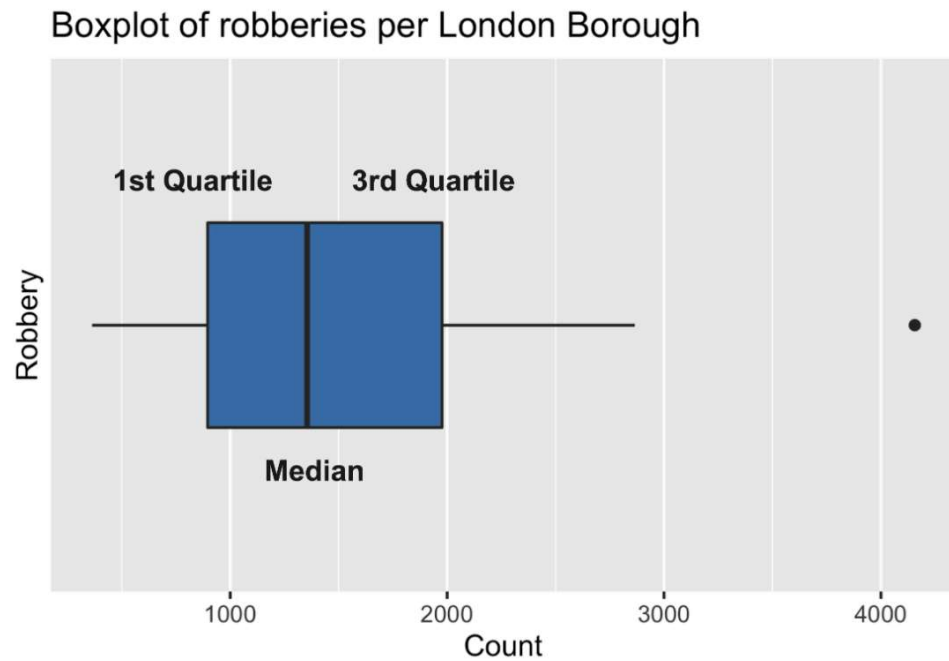
Quartiles

- Quartiles:
 - splitting the data into four equal parts

Crime	0%	25%	50%	75%	100%
Burglary	1,432.00	2,681.75	3,416.50	4,392.00	5,183.00
Robbery	363.00	895.75	1,354.50	1,976.50	4,156.00
Theft	4,090.00	7,739.75	9,624.00	12,059.00	40,278.00
Vehicle Offenses	2,143.00	4,838.25	6,424.50	7,520.75	11,292.00

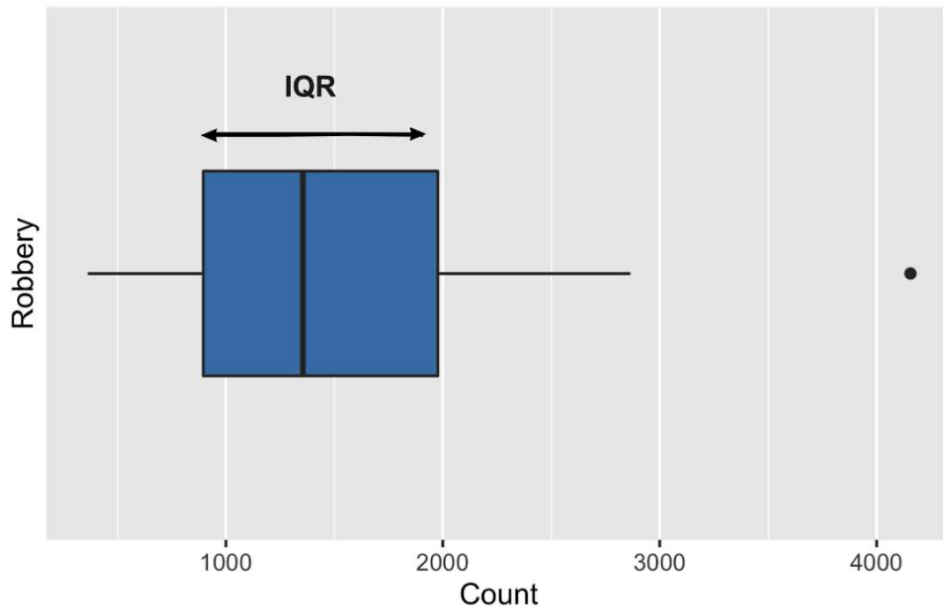
- Second quartile (50%) = median

Box plots



Interquartile range (IQR)

Boxplot of robberies per London Borough



IQR = 3rd Quartile - 1st Quartile

IQR = 1976.50 - 895.75

IQR = 1080.75

- IQR is less affected by extreme values