Shipping Analysis

Done by:

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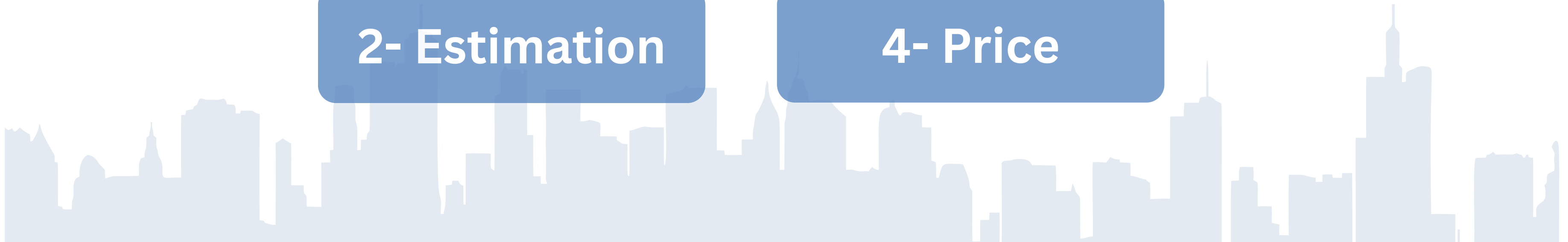Fatma Jassim

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Overview

- The analysis evaluates the shipping company's delivery performance, accuracy and cost efficiency to determine whether continuing the partnership is viable.

- It focuses on four main areas:

1- status	**3- Distance**
2- Estimation	**4- Price**

status

Status of Delivery

2.78%

6.59%

90.63%

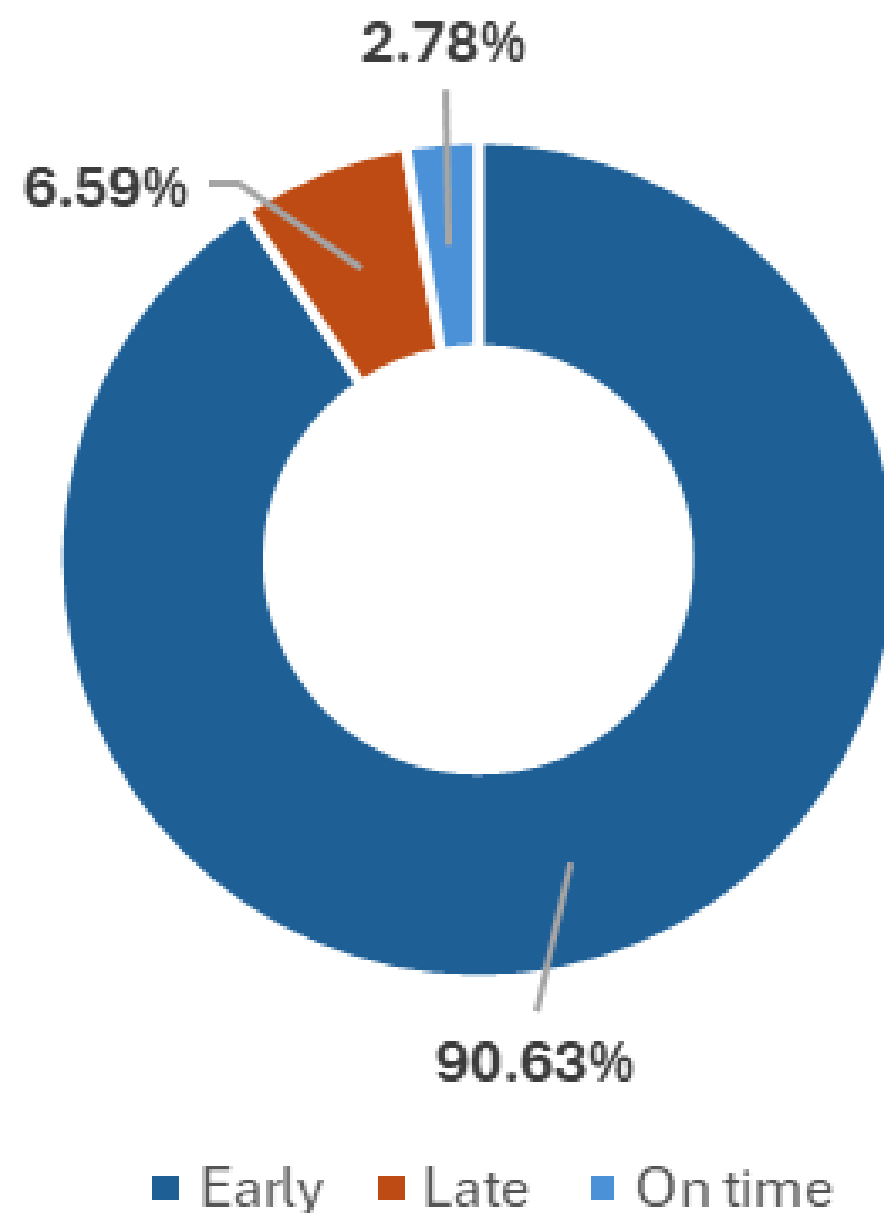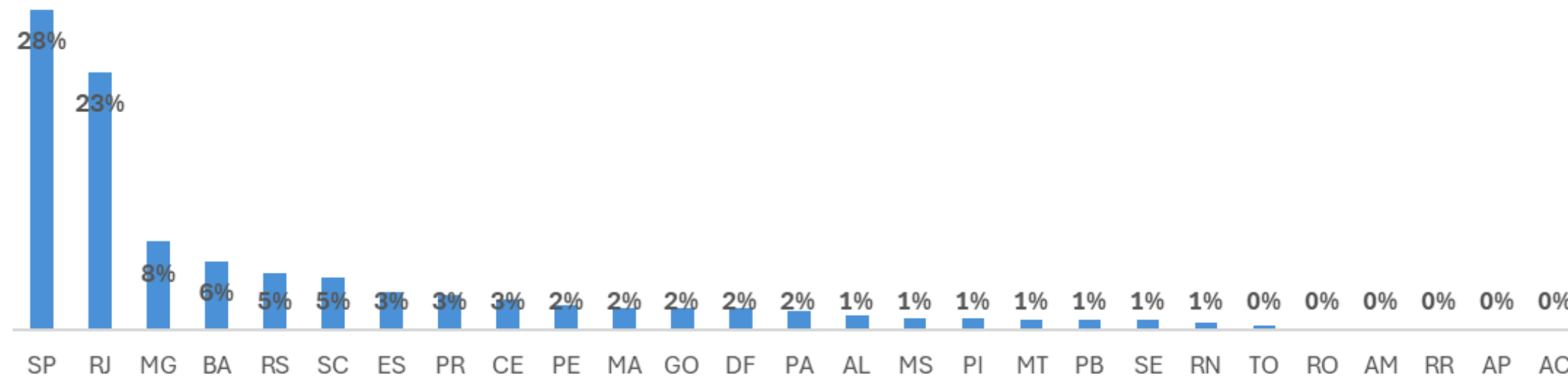■ Early ■ Late ■ On time

- Delivery operations show strong efficiency, with the majority of shipments arriving early.

- Late deliveries, though minimal, will be further examined to pinpoint potential causes and improvements.

Late delivery % per state

SP	RJ	MG	BA	RS	SC	ES	PR	CE	PE	MA	GO	DF	PA	AL	MS	PI	MT	PB	SE	RN	TO	RO	AM	RR	AP	AC
28%	23%	8%	6%	5%	5%	3%	3%	3%	2%	2%	2%	2%	2%	1%	1%	1%	1%	1%	1%	1%	0%	0%	0%	0%	0%	0%

Late% per order

| AL	MA	SE	CE	PI	BA	RJ	PA	RR	PB	ES	TO	PE	RN	MS	SC	GO	MT	DF	RS	SP	MG	RO	PR	AP	AC	AM
21%	18%	16%	14%	14%	12%	12%	11%	11%	11%	11%	10%	9%	9%	9%	8%	6%	6%	6%	6%	4%	4%	4%	4%	4%	3%	3%

- Although Sao Paulo (SP) and Rio de Janeiro (RJ) record the highest share of late deliveries, Alagoas (AL) and Maranhão (MA) have the highest delay ratios per order.
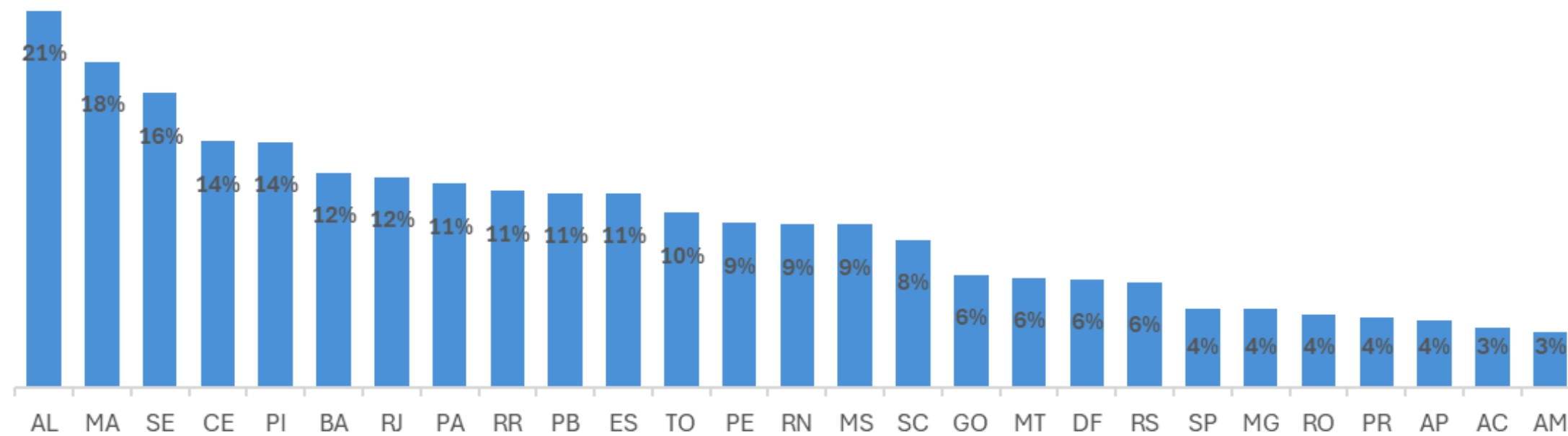
- This shows that SP and RJ delays are driven by high delivery volumes, while AL and MA delays indicate efficiency issues.

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Average days to dispatch per state
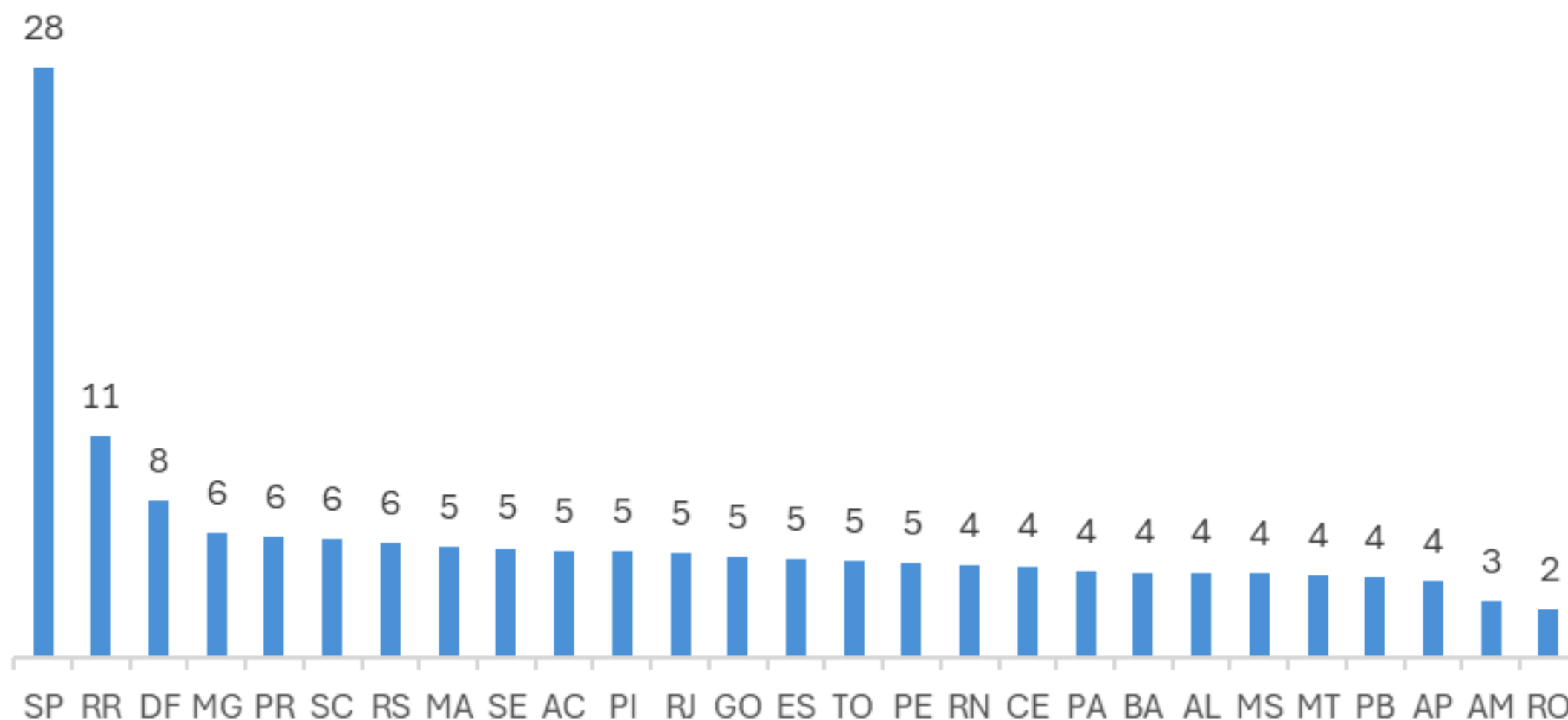
- Sao Paulo (SP) has the longest dispatch time

- Most states dispatch within 4–6 days, showing consistent performance.

- States with higher late-delivery rates, such as SP also have longer dispatch times, indicating that delays originate from the seller side rather than the shipping process.
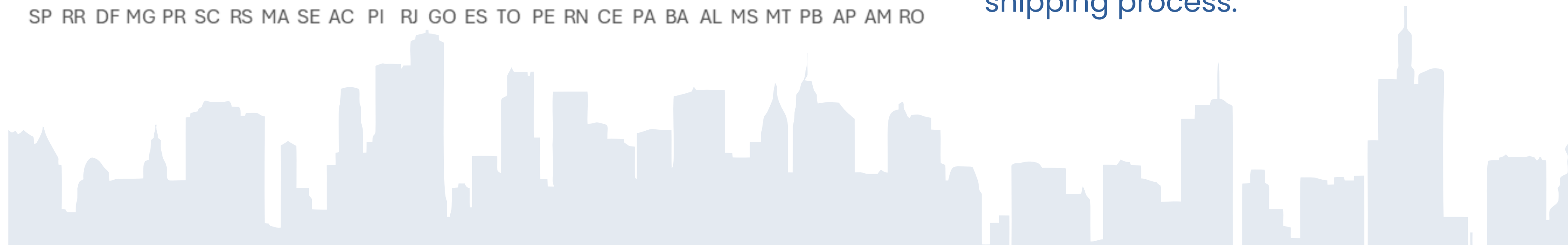
Estimation

Actual days vs Estimated days

28
16
21
5
13 13

■ Average actual delivery days
■ Average of estimation days
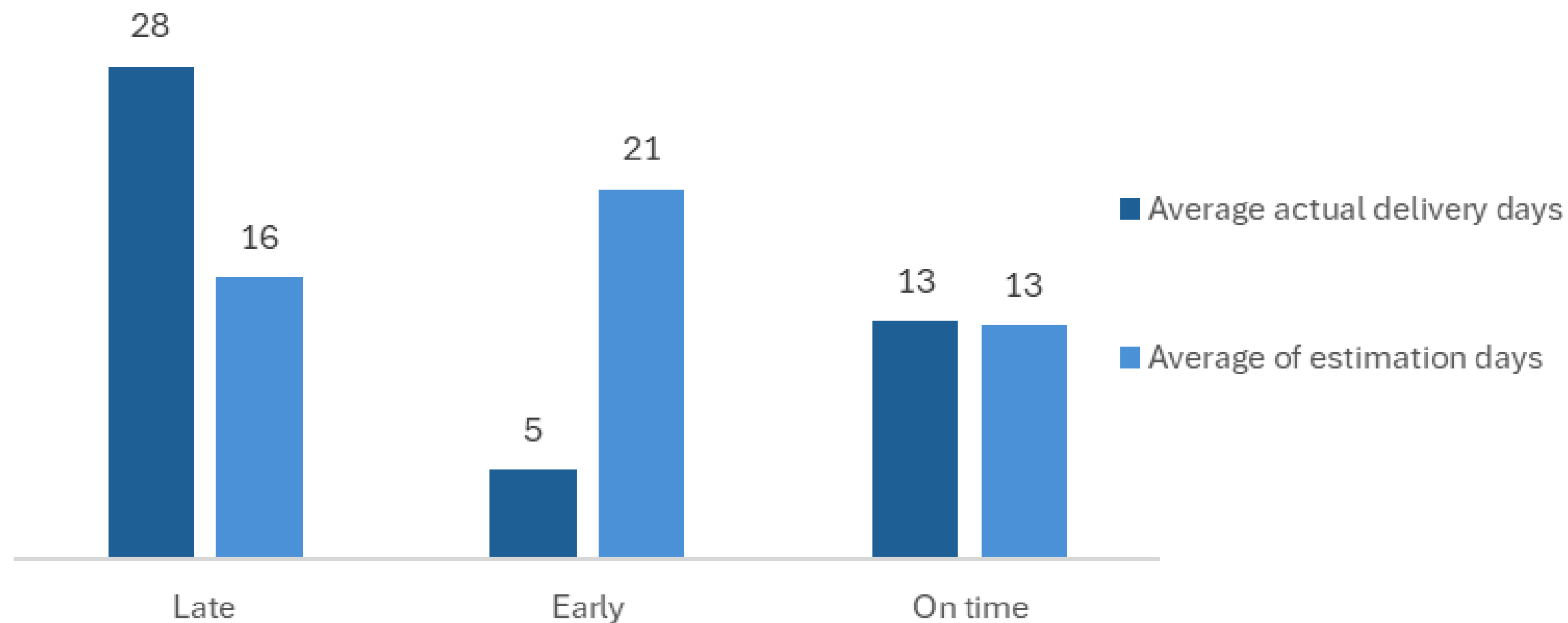
Late   Early   On time

- **Late orders:** 12 days difference →underestimated.

- **Early orders**: 16 days difference → overestimated.

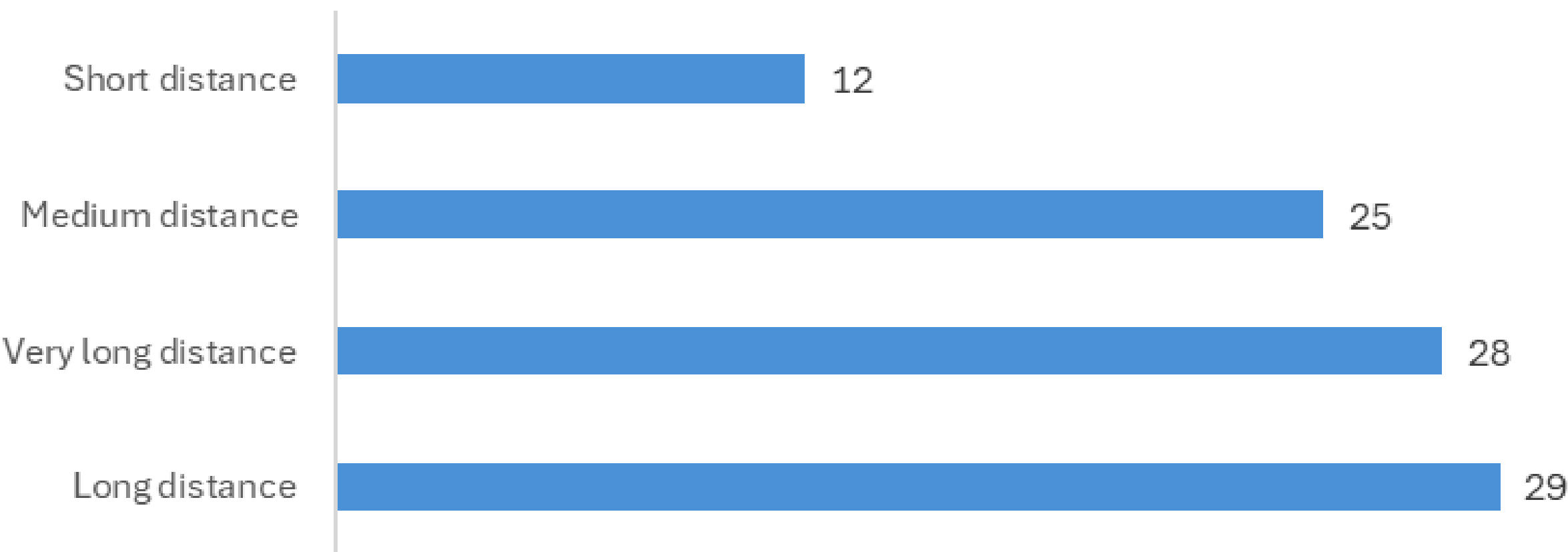- **On–time:** accurate.

- Estimation model needs adjustment.

Distance

Here we will investigate the lates on states that have +15% of lates per order.
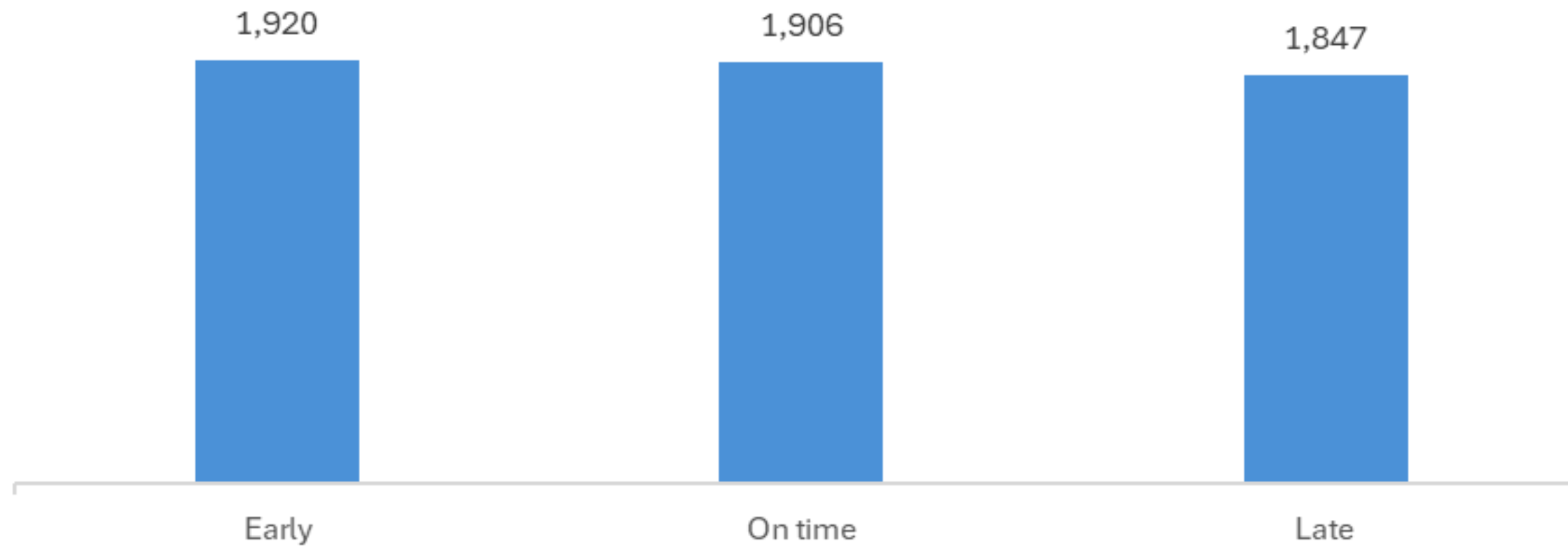
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Average of estimation days

Category	Distance (km)
Short distance	0-100
Medium distance	101-500
Long distance	501-1000
Very long dictance	1000+

Short distance — 12
Medium distance — 25
Very long distance — 28
Long distance — 29
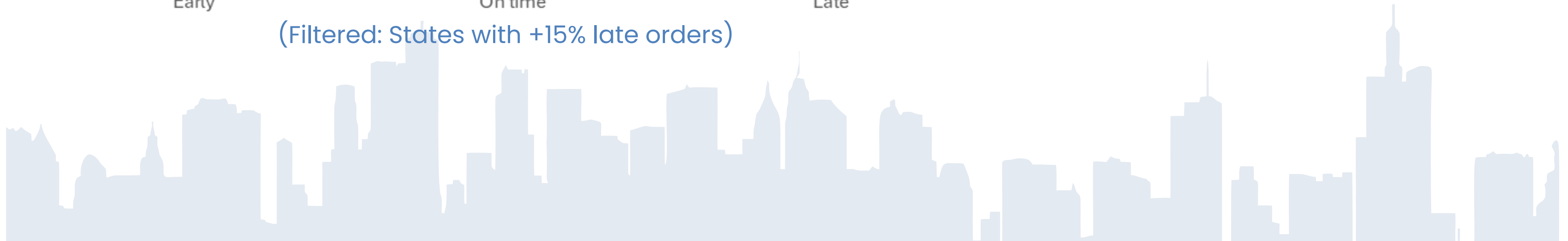
(Filtered: States with +15% late orders)

- Estimation days increase with distance, however, very long routes remain underestimated .
- Adjusting estimates would help reduce late deliveries.
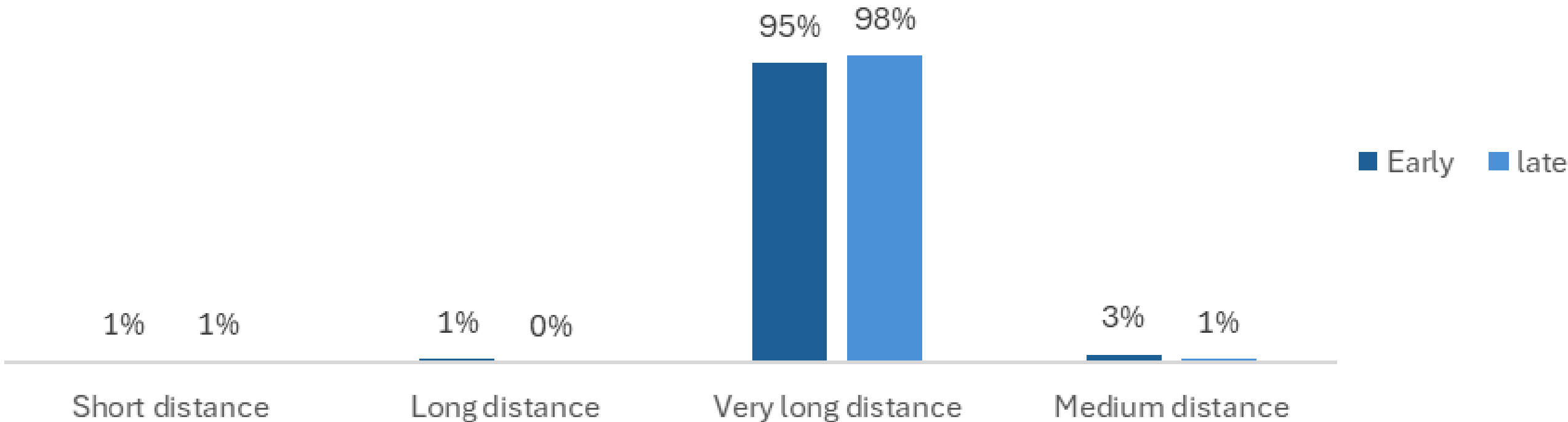
Average of distance (km)

1,920	1,906	1,847
Early	On time	Late

(Filtered: States with +15% late orders)

- Distance is consistent across all status

- Indicates distance isn't the main cause of delays.

Early vs Late orders based on distance

Category	Distance (km)
Short distance	0-100
Medium distance	101-500
Long distance	501-1000
Very long dictance	1000+

Early   late

95%   98%

1%   1%   1%   0%   3%   1%

Short distance   Long distance   Very long distance   Medium distance

(Filtered: States with +15% late orders)

This graph shows that most of the orders come from very long-distance routes (both late and early). This confirms that delays are mainly driven by dispatch or estimation issues rather than distance itself.

Distance and weight

distance vs weight % of late orders
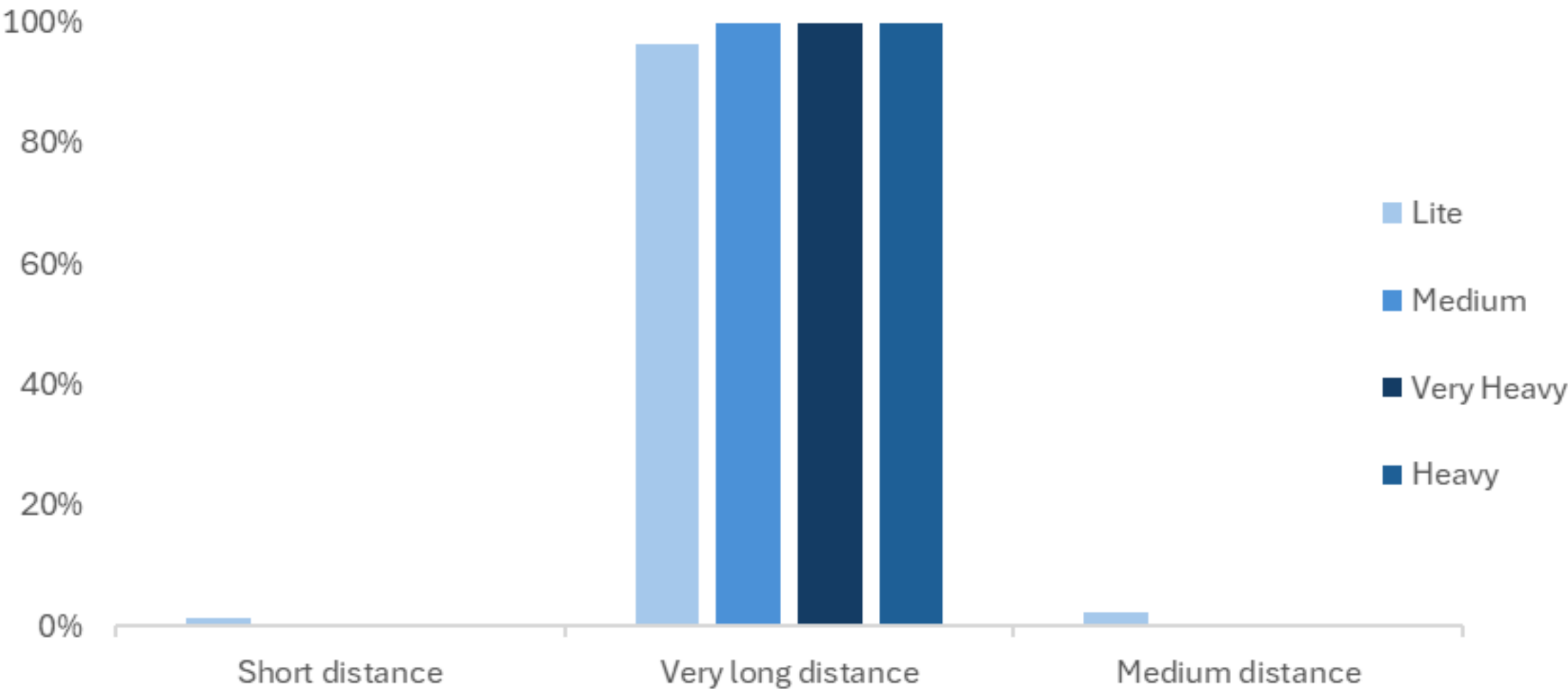
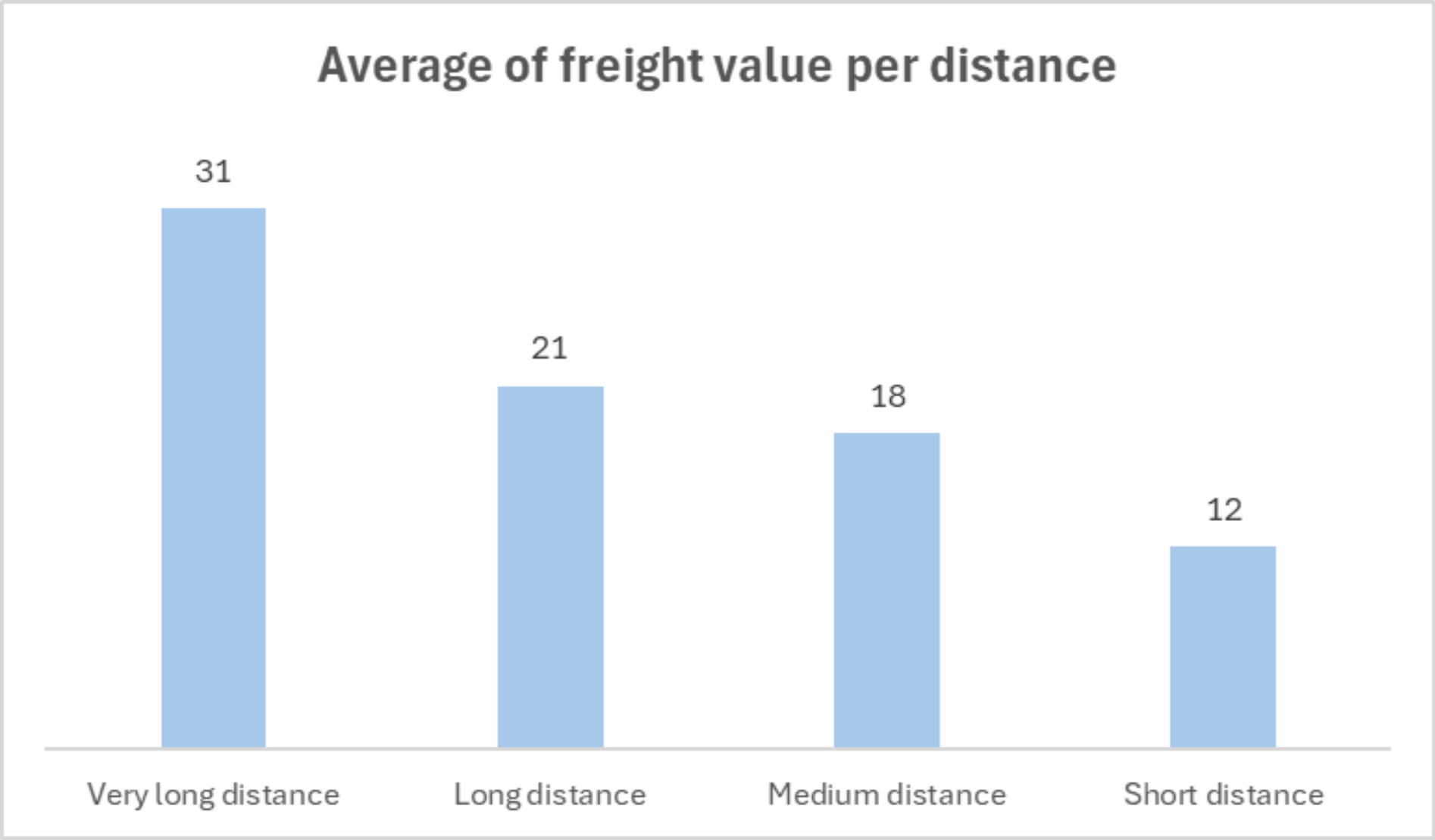| Category	Weight
Lite	0-1 kg
Medium	2-5 kg
Heavy	6-10 kg
Very Heavy	10+ kg

(Filtered: States with +15% late orders)

- Most of late orders are from very long distance routes across all weights.
- Delays are not weight-related

Price

Shipping Company	Average Freight Range
Current Company	**12 - 31 R$**
Correios	30 – 50 R$
Loggi	35 – 60 R$
DHL Express	90 – 150 R$
FedEx Brazil	80 – 140 R$
Shippify	40 – 70 R$

Average of freight value per distance

	Very long distance	Long distance	Medium distance	Short distance
	31	21	18	12

- Current company offers the lowest cost (R$ 12-31) in the market.

Recommendations

- Continue partnering with the current shipping company, as it demonstrates strong cost efficiency and reliable short to medium distance performance.

- Adjust estimated delivery days for very long distance routes to reduce late deliveries and better align customer expectations.

- Track long distance shipments regularly to ensure consistent improvement and maintain service reliability.

91% Deliveries Early

Average Freight Cost R$ 21

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