



Brazil Fall 2023 Cargo Theft Report



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Executive Summary

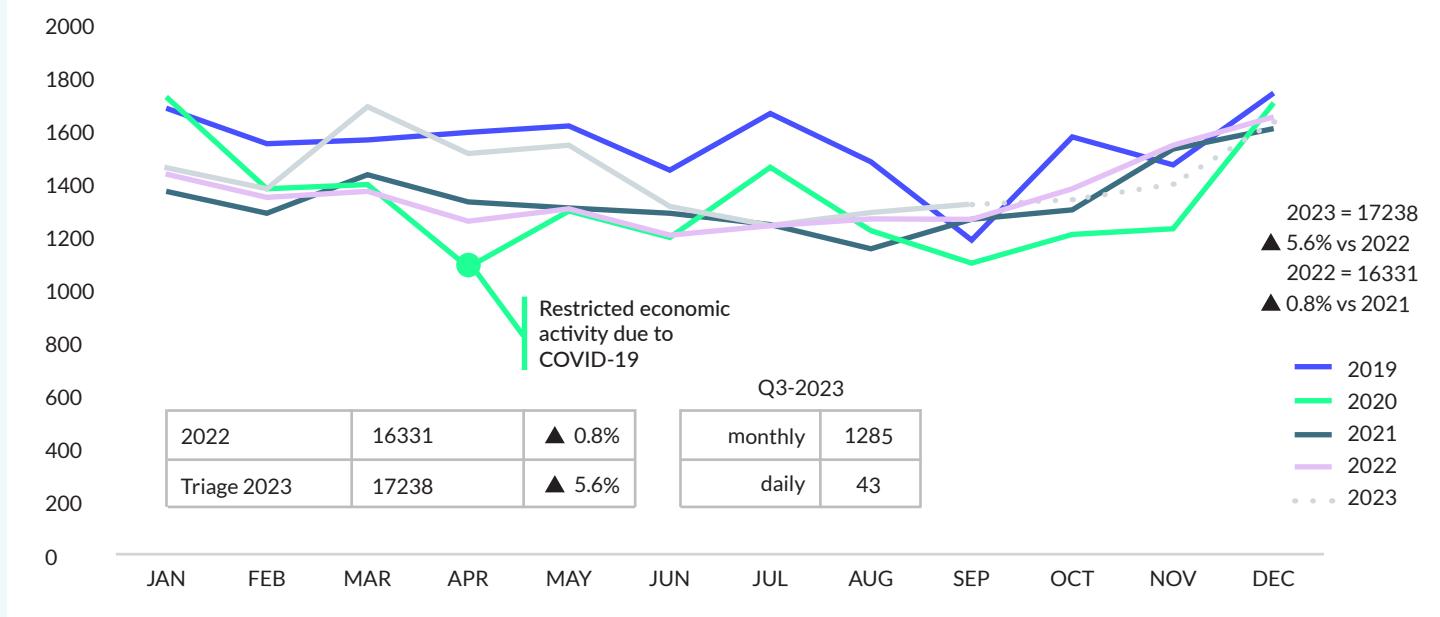
According to data from the Brazilian Institute of Geography and Statistics (IBGE), Brazil has been experiencing economic growth since the first quarter of 2023, which has boosted the country's transportation sector. Around 67% of shipments are transported via road, which remains Brazil's main mode for cargo movement. Several challenges related to this mode of transport are poor road conditions, high fuel prices, and insufficient security. The high exposure of valuable cargo, coupled with this lack of structure and security, contributes to criminal actions by specialized gangs and has led to a troublesome cycle: the more that criminal organizations profit from crimes, the more prepared they become, and the more resources they can count on for new criminal events.

Overhaul continues to support its clients with information, studies, and analysis on cargo theft in the country. Through the use of innovation and technology, we can see a more favorable scenario for the prevention of cargo theft and other illicit or hazardous activities across in the supply chain.

Our analysis revealed that 74% of cargo theft events in Q3-2023 occurred in the Southeast region, with São Paulo and Rio de Janeiro as the most critical states. In terms of trends, the month of September 2023 showed a number 3% higher than the average of the months in the quarter. Toward the end of the year, it is expected that there will be a noticeable surge in activity within the realm of cargo transportation. This uptick is particularly prominent in the final quarter, characterized by significant events like Black Friday in November and the festive season of Christmas, both of which contribute to heightened demand and movement in the transportation of goods.

Brazil experienced 3,856 cargo theft events during the third quarter of 2023. This represents an increase of 1.74% in relation to the same period of the previous year. In the graph below, we can see projections for the rest of 2023, which present a worrisome scenario. They show a constant growth from 2020 to 2023 and a tendency to return to pre-pandemic impact levels (2019).

Graph 1: Annual Trend of Cargo Theft in Brazil 2019-2022/ Predictive Analysis from Jul to Dec 2023



Spatial and Temporal Analysis of Cargo Theft in Brazil

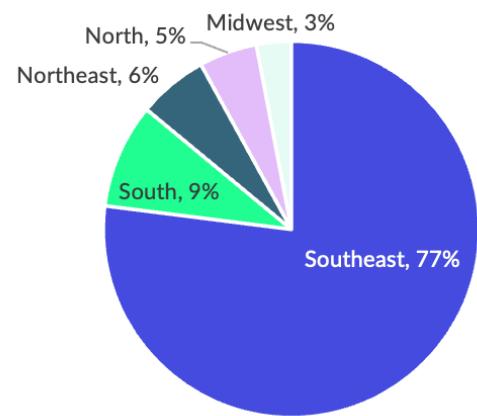
By segmenting the country into quadrants, as depicted in the map to the right, it was discerned that the majority of cargo thefts (86%) occurred in Quadrant 4 (C4). This quadrant encompasses the states of São Paulo, Rio de Janeiro, Minas Gerais, Paraná, Rio Grande do Sul, and Goiás.



Regional Analysis

The most striking figure in relation to region belongs to the North, which experienced a 4% increase in cargo theft events when compared to the previous quarter. This caused the region to move up to fourth place in terms of total cargo theft events, swapping positions with the Midwest region from the previous quarter. The Southeast region continued to record the highest number of incidents throughout the entirety of 2023. Rio de Janeiro and São Paulo were the states responsible for the highest number of cargo thefts registered in the whole country. These states also experienced the greatest amount of cargo movement and economic representation for Brazil, which reflects directly on the region where they are located. The South and Northeast regions remain as the second and third positions registered by Overhaul.

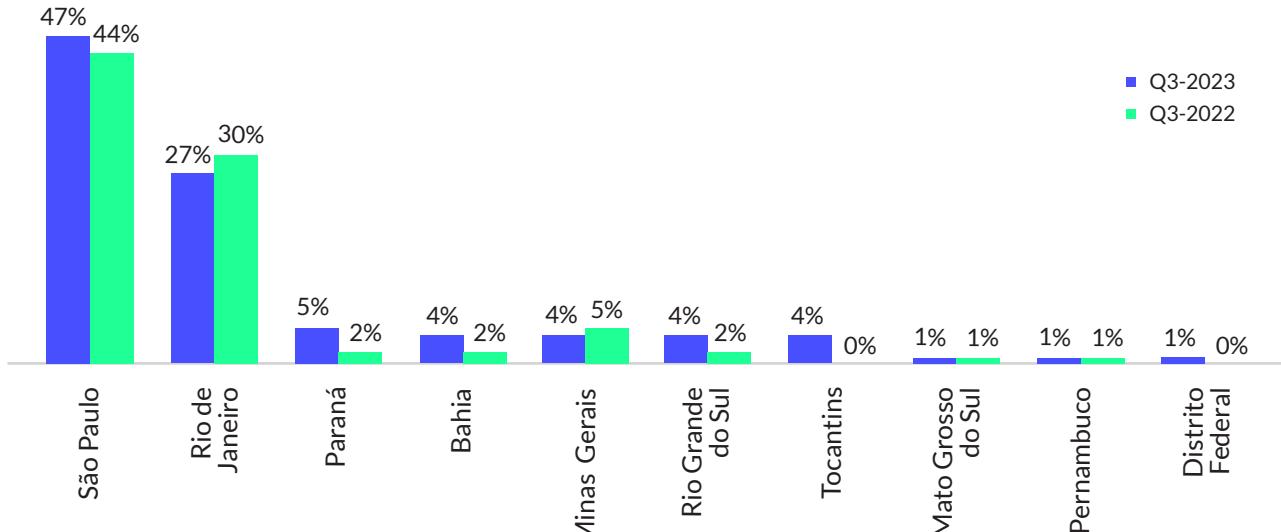
Graph 2: Brazil Cargo Theft by Region



Analysis of the 10 States with the Highest Volume of Cargo Theft

São Paulo and Rio de Janeiro accounted for 74% of the country's thefts, and despite falling 2 percentage points in the division of thefts in the country compared to last quarter, they are still the two states with the highest number of cargo thefts. The geographical division of robberies maintains a certain stability in relation to the first states on the list of cargo thefts, except for the state of Tocantins, which in this quarter joined the top 10 list. With a significant increase, Tocantins now accounts for 4% of the country's thefts, boosting the number in the country's northern region. In Graph 3, we can see the concentration of 97% of thefts that occurred throughout the country.

Graph 3: Brazil Cargo Theft by State

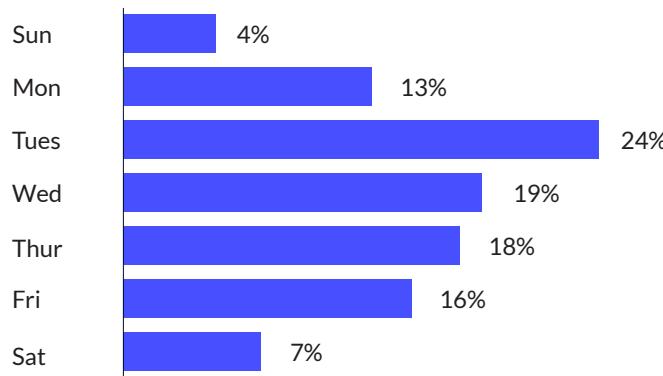


Theft by Day and Hour

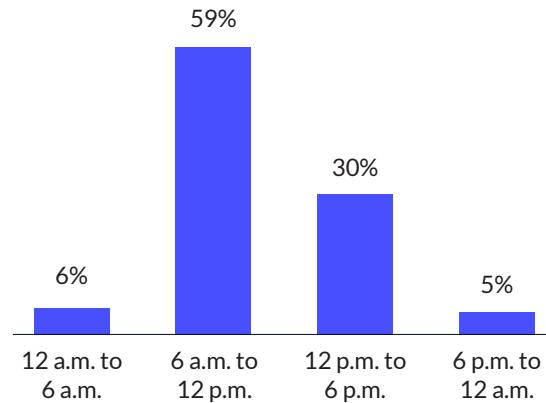
In the third quarter of 2023, instances of cargo theft in Brazil were notably more prevalent on weekdays. Among these days, Tuesdays carried the highest risk, accounting for 24% of incidents. This pattern could be attributed to the concentration of cargo movements on workdays, which creates increased opportunities for criminal activities that exploit vulnerabilities in logistics operations' security.

In Q2-2023, a similar distribution of thefts per day was observed, with 23% of incidents occurring on Tuesdays. As for the times of day, a similar pattern was also maintained, with most events (59%) occurring between 6 a.m. and 12 p.m.

Graph 4: Cargo Theft in Brazil by Day of the Week



Graph 5: Cargo Theft in Brazil by Time

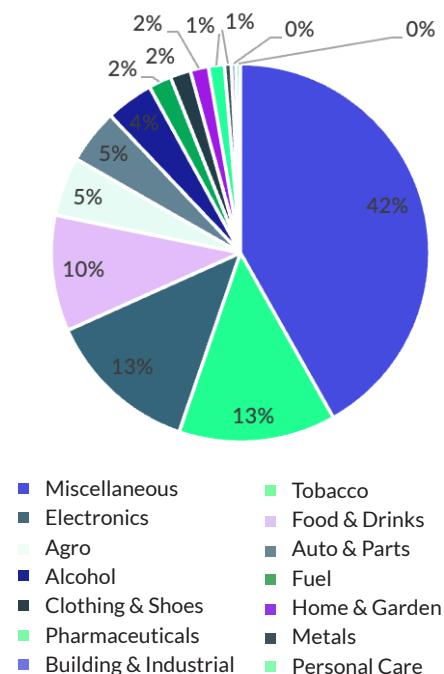




Theft by Product Type

According to the Overhaul Intelligence Center database, the top 5 most stolen product types remain the same as last quarter. *Miscellaneous* maintained its status as the most stolen product (42%) and experienced a drop of 2 percentage points. After *Miscellaneous*, a more homogeneous division of thefts by product emerged than in previous periods. *Tobacco* took over as the second most stolen product (13%), a position that last quarter was held by *Food & Drinks* at 18%. Notably, *Electronics* jumped to 13%, marking a significant increase from both Q2-2023 (7%) and Q3-2022 (11%). For the *Electronics* category, we can highlight cell phones as the most stolen products, accounting for 57% of all events involving electronics. As for *Food & Drinks*, despite continuing to make up the top 5 most stolen product types, there was an 8% drop in the distribution of cargo thefts compared to the previous quarter and a 6% drop compared to the same period last year.

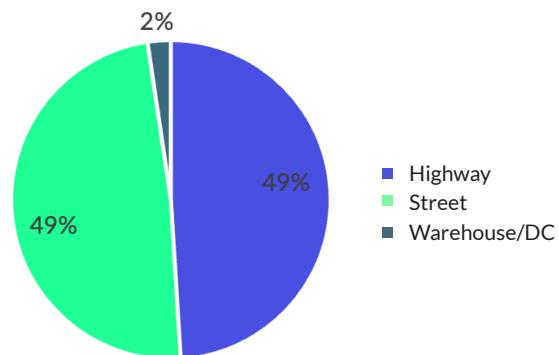
Graph 6: Cargo Theft by Type of Product



Theft by Type of Location

Thefts that took place on *Streets or Highways* were evenly distributed this quarter. In the previous quarter, they predominantly occurred on streets, with 57% of robberies taking place in urban areas. Crimes on highways, which rose from 42% to 49% this quarter compared to the previous quarter, are mostly carried out by more specialized gangs, with predefined targets. They rely on privileged information and the participation of drivers and employees of transport companies or shippers. Street robberies, on the other hand, are characterized by thefts of opportunity, with smaller volumes of cargo and varied types of products.

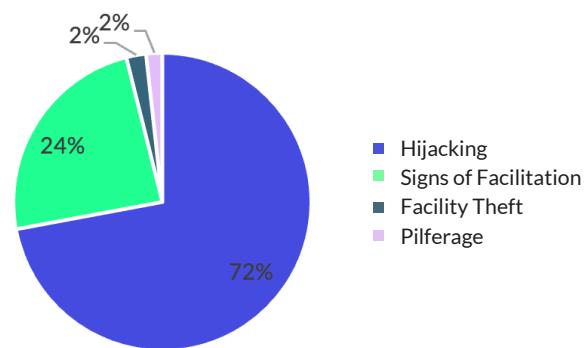
Graph 7: Cargo Theft in Brazil by Location



Theft by Type of Event

Hijacking remains the most recurrent type of criminal action in Brazil at 72%, but it is important to note the significant increase in thefts involving *Signs of Facilitation* (+14%). In this quarter, 24% of thefts involved bad actors who had insider knowledge about the shipments. This shows the importance of creating and maintaining thoughtful travel plans and processes throughout the supply chain. Confidentiality of information and process mapping must also be increasingly assessed and scrutinized.

Graph 8: Cargo Theft in Brazil by Type of Event



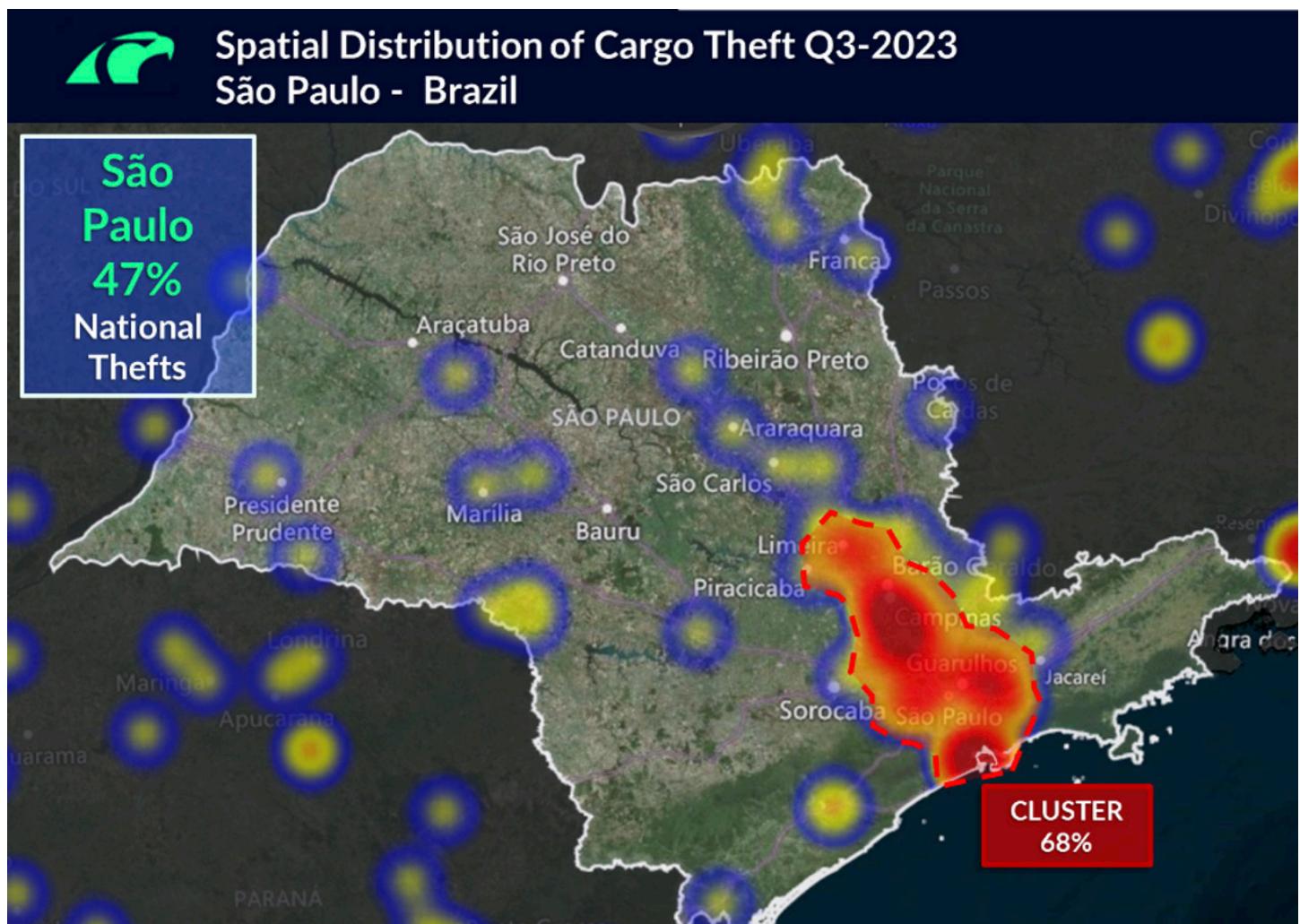


Special Report Q3-2023

The Overhaul Intelligence Center has determined that the State of São Paulo demonstrated significant increases in the distribution of cargo theft in Q3-2023. Our analysis also revealed that Electronics products had the most significant growth in thefts when compared to the third quarter of 2022. Therefore, the following analyses will cover thefts that occurred in the State of São Paulo, as well as thefts involving Electronics loads throughout Brazil during the third quarter of 2023.

Cargo Theft in São Paulo State

São Paulo experienced the highest number of thefts this quarter. It's no coincidence that the state, which is home to some of the country's most important companies, warehouses, and ports, is also a target for cargo theft gangs. According to São Paulo Secretary of Public Security, the mesoregions with the highest incidence in the third quarter of 2023 correspond to Capital (48%), Grande, and São Paulo (25%). The clusters in the image show the cargo theft representation of the regions according to Overhaul's historical database. The upward trend in risk should continue to occur in the capital city of São Paulo and adjacent municipalities. The types of products most stolen in the state of São Paulo drive the numbers for the whole country due to their large representation. Miscellaneous (18%) was followed by Electronics and Tobacco (both 15%), Food & Drink (11%), and Auto & Parts (9%). The cities in the state with the highest incidence of thefts are Campinas, Jundiaí, Cubatão, Praia Grande and São Vicente, accounting for more than a third of all thefts in the state. 68% of events involved the use of firearms and direct threats toward drivers. 21% of thefts occurred on Mondays. In São Paulo, the roads that presented the highest risk were SP-330, BR-116, and SP-348.



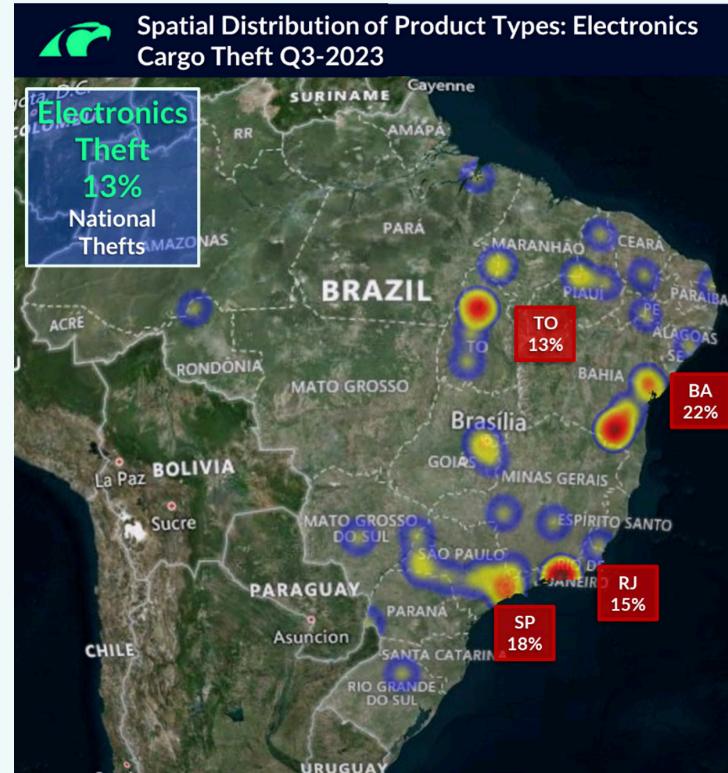
Theft Analysis of Electronics Products

With a variation of 11% compared to the same period last year, this category of products is always among the most stolen. Due to a large parallel trade network fueled by cargo theft, embezzlement, or even smuggling, electronics are one of the most sought-after targets for gangs. This is also why companies responsible for transporting this type of product tend to use different layers of security in shipments, which sometimes keeps out less specialized gangs that look for security vulnerabilities to attack. On the other hand, higher value cargo tends to be targeted by more specialized gangs with great firepower, inside information, and greater experience in receiving and illegally distributing products.

The data collected by Overhaul's Intelligence Center shows that the states most affected by the theft of electronics also rank high in the theft of other products.

Bahia, with a total of 22% of the country's electronics thefts, is the fifth most at risk state in terms of cargo thefts in Brazil, while São Paulo (18%) and Rio de Janeiro (15%) are the two states with the highest numbers of thefts in the country. The state of Tocantins accounts for 13% of incidents, which reflects its rise in the figures already highlighted in the third quarter of 2023.

Cell phones were the most stolen product within the electronics category at 57%. The day with the most electronics thefts in Q3-2023 was Tuesday (27%), following the trend for other products in the country. The majority of thefts took place during the day and extended into the afternoon between 6 a.m. and 6 p.m. at around 30%. In terms of modus operandi, in addition to thefts involving firearms and direct threats against drivers, the number of hijackings increased compared to previous periods. This trend has also been seen in the theft of other products.



What to expect in 2024

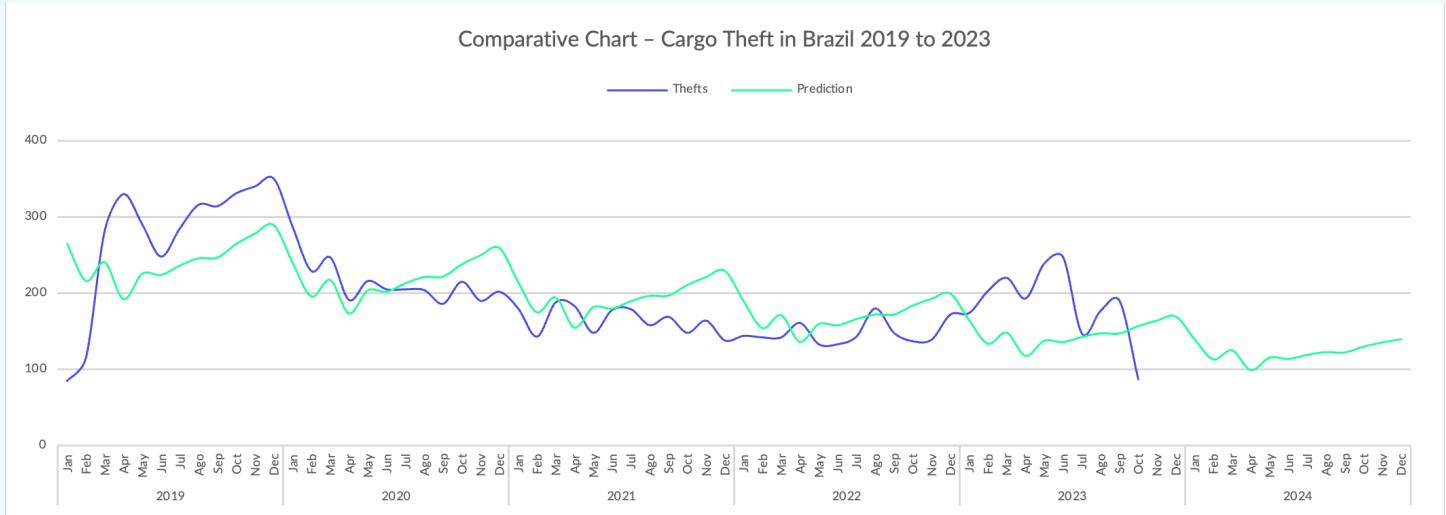
In 2024, it is expected that most transportation will continue along roads, which will lead to similar challenges as those observed this year. Within this scenario, we can also expect an increase in the number of cargo thefts.

In order to better predict theft events in 2024, the Overhaul Intelligence Center in Brazil developed two analyses, one quantitative and the other qualitative. The quantitative analysis consisted of a Regression with Longitudinal Data using Overhaul's proprietary database as a sample. Records from January 2019 to October 2023 were analyzed in order to execute the prediction curve for 2024. The qualitative analysis used a questionnaire to capture the expectations of 45 Brazilian specialists in risk management in cargo transportation. 67% of these respondents occupied positions of Senior Management or Board and 25% were in Middle Management. Additionally, 85% of respondents had more than 15 years of experience in risk management in cargo transportation and another 9% had more than 10 years of experience.



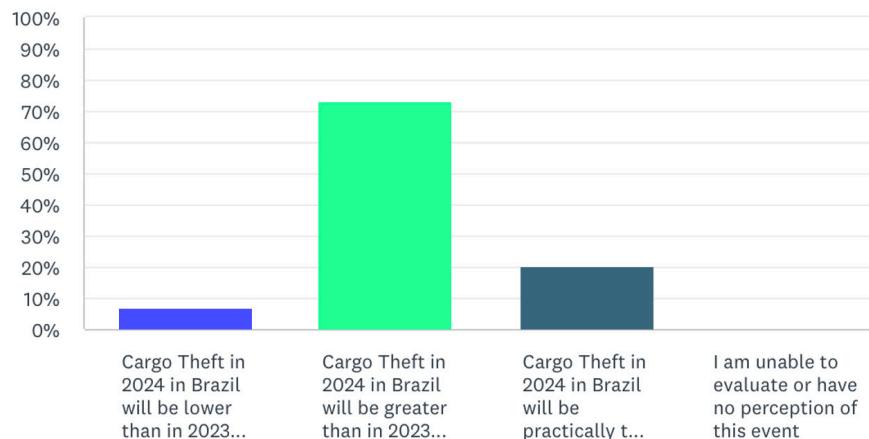
Quantitative Analysis

By analyzing this data from January 2019 to October 2023, we can detect a slight downward trend which peaks in the fourth quarter of the year. One change that we can notice in 2023 is that the real curve of cargo theft (blue) shows a detachment from the forecast since January, as well as an increase from February to June. On the other hand, when evaluating the prediction curve (green), the expected behavior in 2024 follows the trend of increasing from May 2024 and reaching its peak in December. However, the growth that occurred in 2023 from February to July may lead to an increase in the trend for 2024, which would cause the total number of cargo thefts in 2024 to be higher than those in 2023.



Qualitative Analysis

Considering the patterns experienced in 2023 and the information known about 2024 regarding economic forecasts, the country's political context, organized crime movements, security actions by public authorities and the private sector, as well as the behavior of the informal market, it would be correct to say that: (Please choose only one answer)



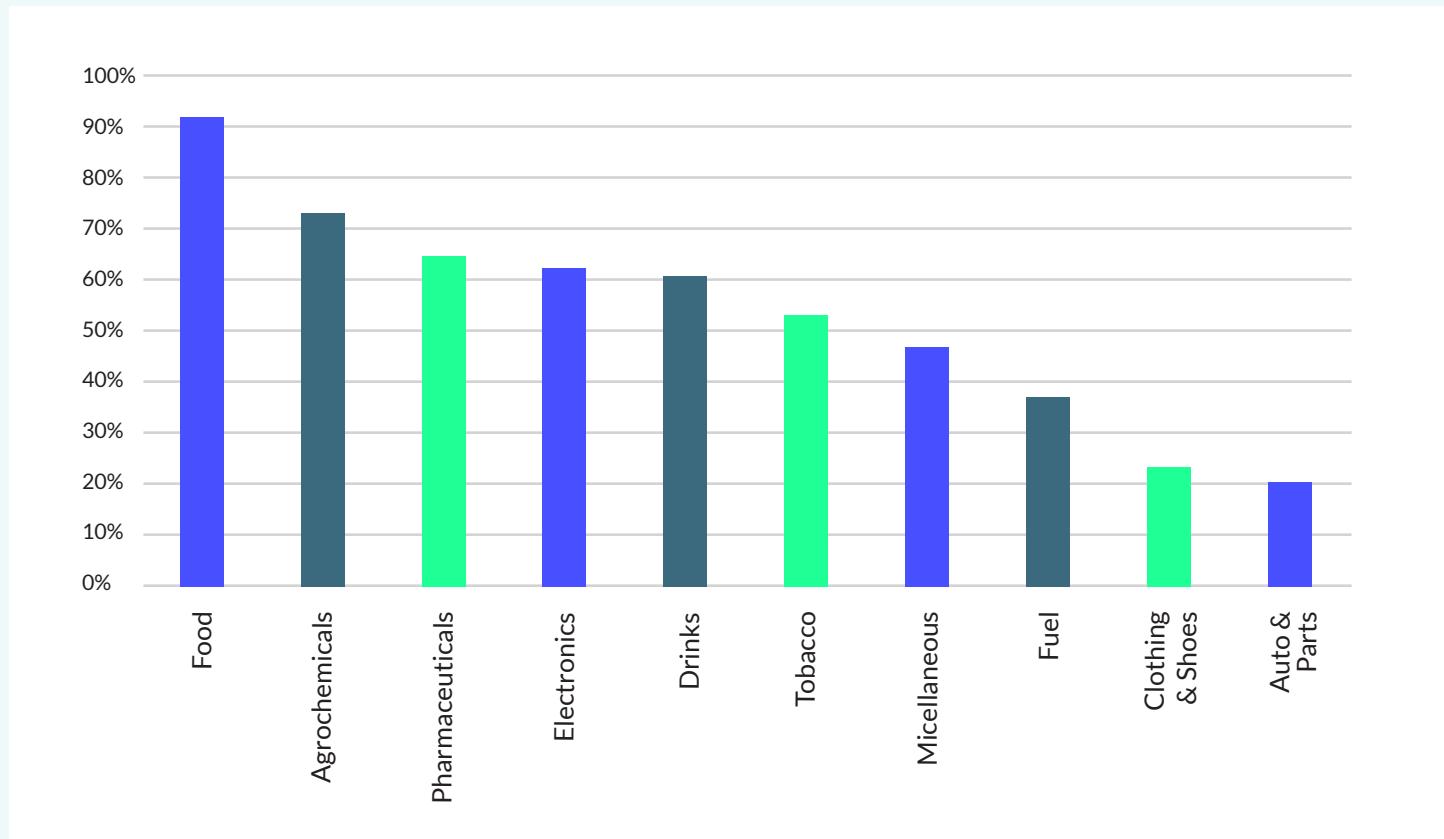
ANSWER CHOICES	RESPONSES	
▼ Cargo Theft in 2024 in Brazil will be lower than in 2023 with a significant smaller variation	6.67%	3
▼ Cargo Theft in 2024 in Brazil will be greater than in 2023 with a significant greater variation	73.33%	33
▼ Cargo Theft in 2024 in Brazil will be practically the same as in 2023	20.00%	9
▼ I am unable to evaluate or have no perception of this event	0.00%	0
Total Respondents: 45		

Experts expect that cargo theft will experience a significant increase in 2024, leading to a higher total number of events than in 2023. This aligns with the trend break detected in the quantitative analysis where events increased between February and June 2023.





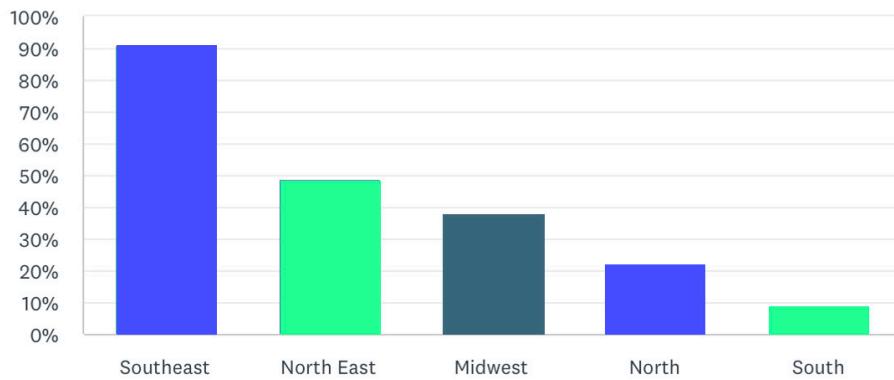
In 2024, the following types of cargo show that there will be an increase in the number of cargo theft events: (Check all that you understand will see an increase in events)



As for the types of cargo that are expected to be stolen the most in 2024, experts are concerned about some types of cargo that, in the analysis of recent quarters, have been stable. The expected increase in thefts of Agrochemicals, Pharmaceuticals, and Electronics can be interpreted as a concern related to the actions of organized crime to attack these higher value-added products.



In 2024, the following regions of the country will experience an increase in the number of cargo theft events: (Check all that you understand will see an increase in events)



ANSWER CHOICES	RESPONSES
▼ Southeast	91.11% 41
▼ North East	48.89% 22
▼ Midwest	37.78% 17
▼ North	22.22% 10
▼ South	8.89% 4
Total Respondents: 45	

Regarding the regions of Brazil, specialists were notably concerned about increases in the Northeast.

General Recommendations

Due to the growing and evolving organization of criminal groups in Brazil, Overhaul's Intelligence Center assesses cargo shipments in the country to be at a SEVERE risk for theft. The expanding territorial reach and specialization in specific crimes, particularly the escalating incidents of cargo theft orchestrated by criminal factions, underscore the imperative for heightened vigilance and dedicated efforts to enhance cargo security daily.

We advise shippers to strategically plan their routes by incorporating secure stopping points and utilizing advanced tracking technology for their shipments. Employing multiple layers of protection is also crucial in order to safeguard cargo. Furthermore, organizations engaged in the transportation and storage of goods should prioritize enhancing technology integration within their vehicles. Leveraging data for predictive analysis can significantly boost the efficiency of preventive measures. Lastly, trucking companies can play a pivotal role in combating cargo crime by proactively organizing and planning their trips and collaborating with specialists in supply chain risk management.