



Brazil Q1-2023 Cargo Theft Report



Table of Contents

Executive Summary	Page 3
Spatial and Temporal Analysis of Cargo Theft in Brazil	Page 4
Regional Analysis	Page 5
Analysis of the 10 States with the Highest Volume of Cargo Thefts	Page 5
Theft by Day and Time	Page 6
Theft by Product Type	Page 6
Theft by Type of Location	Page 7
Special Report Q1-2023	Page 7
i. Cargo Theft in the Southeast Region	Page 8
ii. Theft Analysis of Auto & Parts Products	Page 9
Success Case - Pesticides Recovery	Page 9
General Recommendations	Page 10



Executive Summary

Over 60% of cargo movement in Brazil is concentrated along roads. In recent years, the country moved to increase the use of rails via changes in legislation and incentives for the construction of new railway lines. However, these projects and works are still in their execution phase, and there has not yet been a significant change in the movement of cargo.

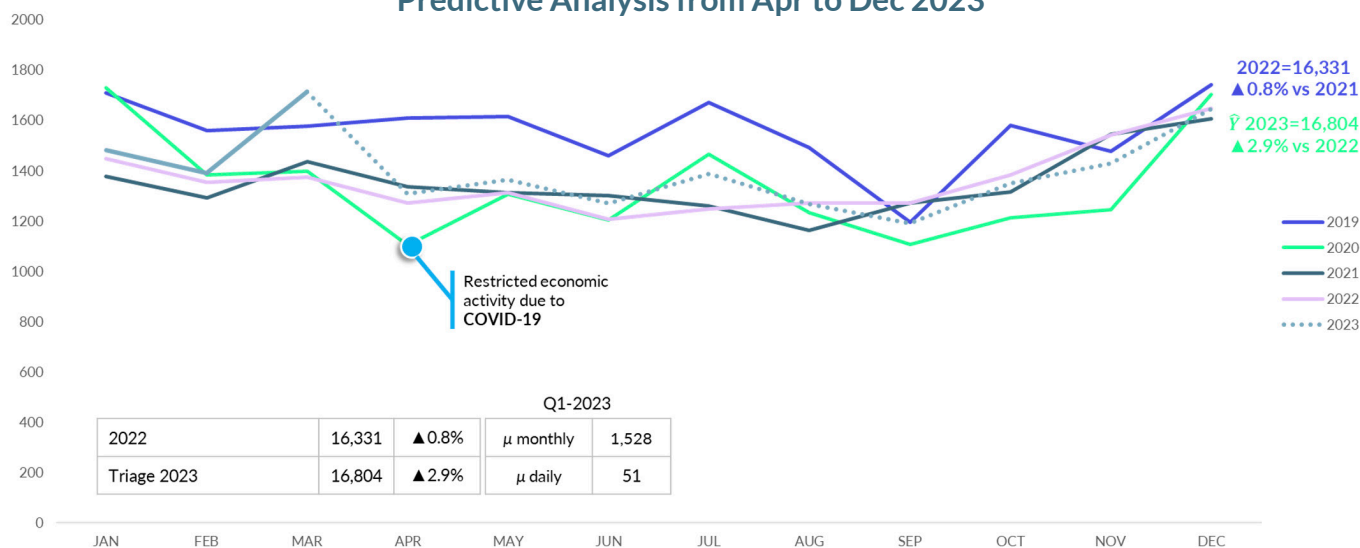
This concentration of cargo on roads, coupled with the country's socioeconomic conditions and the existence of high levels of organized crime, leads to the existence of a parallel structure that sustains gangs specialized in corporate crimes, among them cargo theft. In this context, cargo theft is a constant challenge for supply chains operating in Brazil, which requires businesses to invest in operational controls and security measures to minimize financial losses, prevent increases in insurance rates, deter supply disruptions, and avoid possible negative impacts to their brands.

In this quarterly report, we seek to present the evolution of cargo theft events in Brazil during the first months of 2023. We believe this data will assist carriers, insurers, brokers, and other players involved in logistics operations as they strive to improve their levels of transport security to ensure greater operational efficiency and financial results. Overhaul's Intelligence Center sought data and information about cargo theft events and analyzed them in terms of geographical concentration patterns, days of the week and times of highest concentrations, types of cargo most stolen, and modus operandi most used by the gangs. We also analyzed whether the thefts occurred at warehouses, road stops, or vehicles in-transit.

Our analysis revealed that 80% of cargo theft events in Q1-2023 occurred in the Southeast region, with São Paulo and Rio de Janeiro as the most critical states. In terms of trends, the month of March 2023 showed a number 23% higher than the previous month. Further increases in cargo movement are expected throughout the rest of the year, and 2023 will likely end with numbers higher than last year by approximately 10%.

According to data collected during the first quarter of 2023, Brazil witnessed 4,585 cargo theft events. This represents an increase of 9.77% in relation to the same period of the previous year. In the graph below, we can see projections for the year 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).

Chart 1: Annual Trend of Cargo Theft in Brazil 2019-2022
Predictive Analysis from Apr to Dec 2023



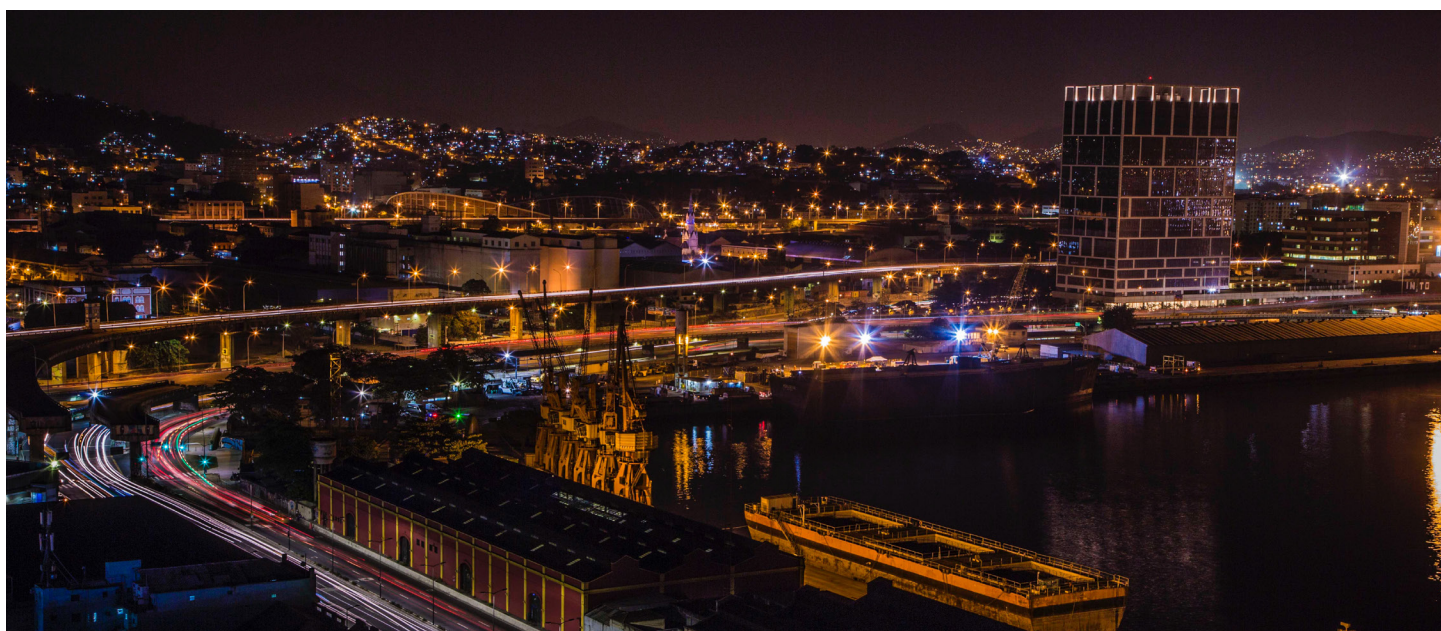
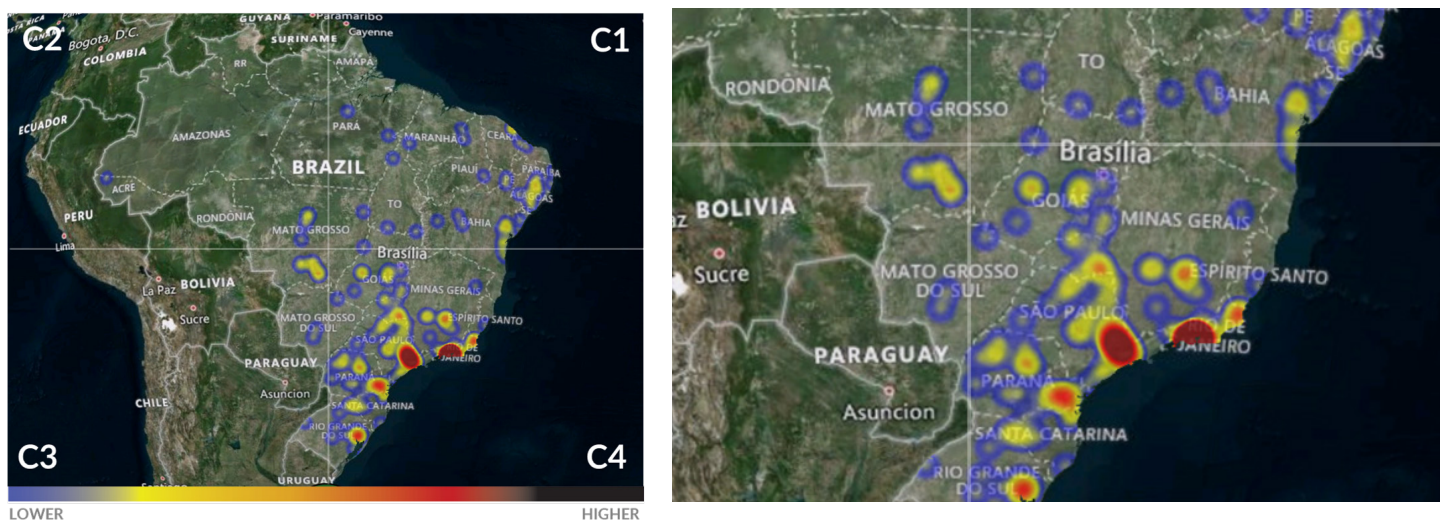


Despite official figures published by the country's authorities showing a small reduction in cargo theft events for the first quarter of 2023, the Overhaul Intelligence Center's databases and projections based on statistical analysis of time series show a contrary trend with a slight increase in cargo thefts.

According to SETCESP, NTC, Fetrancesc, and Sindipesa surveys, the scenario expected for 2023 is optimistic with road transport showing resilience in the face of still high interest rates and high input costs, which directly impact the circulation of cargo. Still, this optimistic scenario shows how the increase in cargo circulation reflects directly on the increase in related crimes. The number of thefts registered in March 2023 is noteworthy, with an increase of 23% compared to February, reflecting the beginning of the rise in economic activities in the country after the post-election period's political uncertainties.

Spatial and Temporal Analysis of Cargo Theft in Brazil

By dividing the country into quadrants as seen on the map above, it was identified that 88% of cargo thefts were concentrated in Quadrant 4 (C4), which includes the states of São Paulo, Rio de Janeiro, Minas Gerais, Paraná, Rio Grande do Sul, and Goiás.



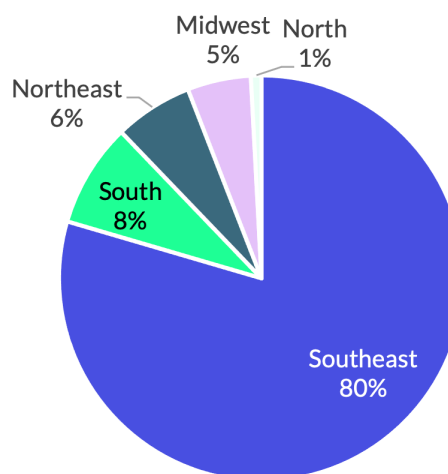


Regional Analysis

During the first quarter of 2023, 80% of cargo theft incidents were concentrated in the Southeast region.

In relation to the previous quarter, Q4-2022, the South retained the second highest number of occurrences registered by Overhaul. The Southeast remained the region with the most incidents recorded during the entire year of 2022 and the first quarter 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.

Chart 2: Brazil Cargo Theft by Region

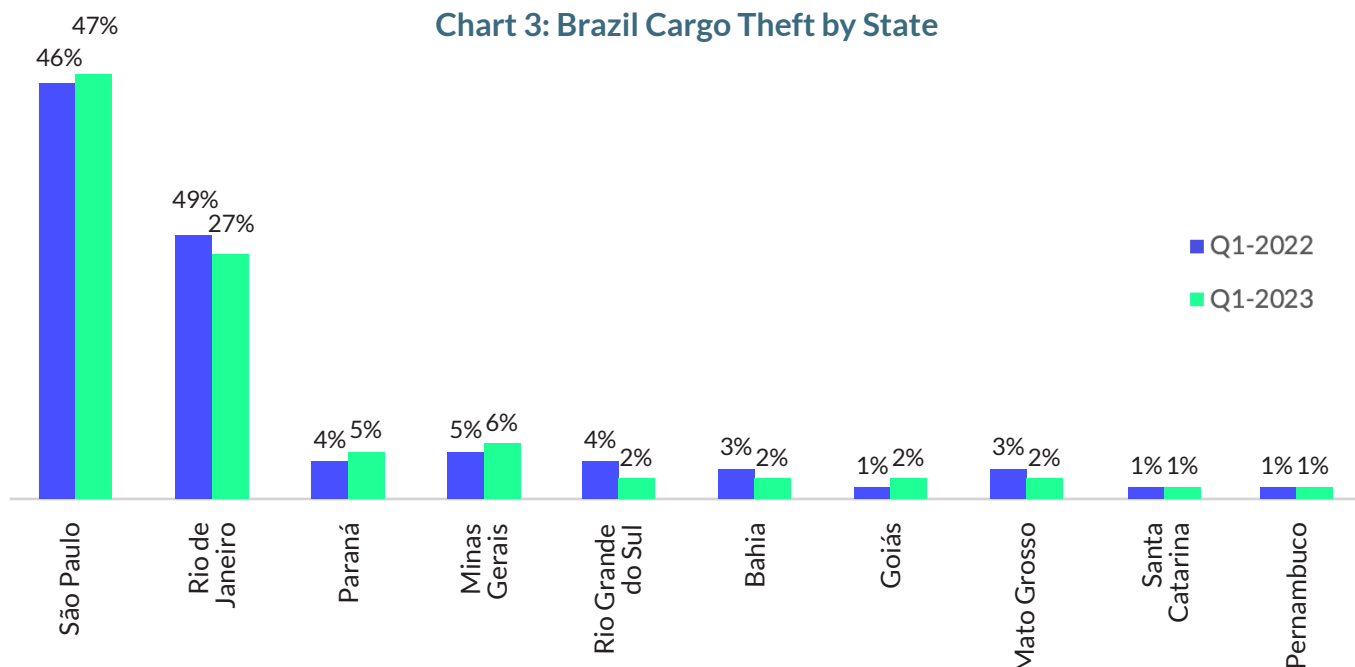


Analysis of the Ten states with the Highest Volume of Cargo Thefts

The states of São Paulo and Rio de Janeiro were responsible for 74% of all thefts nationwide, positioning themselves as the two states with the highest incidence of cargo theft. The geographical divisions of cargo theft in the country changed in relation to the first quarter of 2022, with the South region occupying second place, which was previously occupied by the Midwest region. In the state of São Paulo, an increase of +1 percentage point was observed while for Rio de Janeiro the variation was -2 percentage points.

In Graph 3 we can see the concentration of 96% of robberies in the country.

Chart 3: Brazil Cargo Theft by State





Theft by Day and Time

During the first quarter of 2023, cargo theft events in Brazil predominated on workdays (Monday through Friday), with Thursday experiencing the greatest risk of circulation with 20%. Possibly, this is because cargo movement is concentrated primarily on workdays (Monday to Friday). The greater exposure of cargo on these days enables criminal actions, which exploit points of vulnerability in the security of logistics operations. In the same period of 2022, the distribution of robberies per day remained unchanged in relation to the first quarter of 2023, which shows Thursday as the day with the highest number of incidents (23%). Considering the last quarter, Q4-2022, Tuesday and Thursday experienced the greatest number of events at 21% each.

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

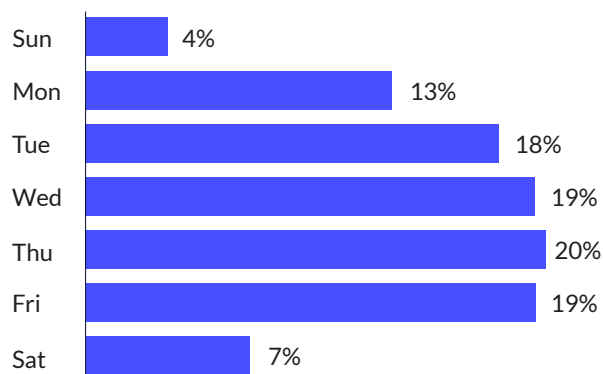
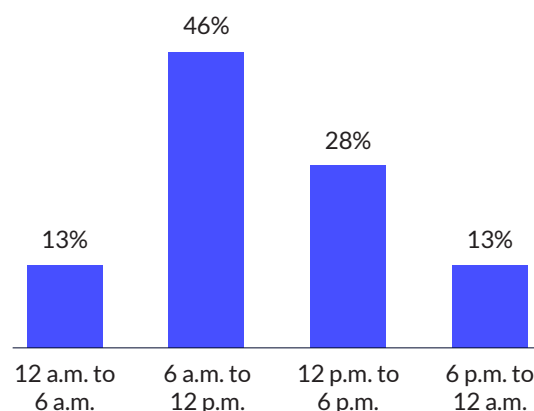


Chart 5: Cargo Theft in Brazil by Time



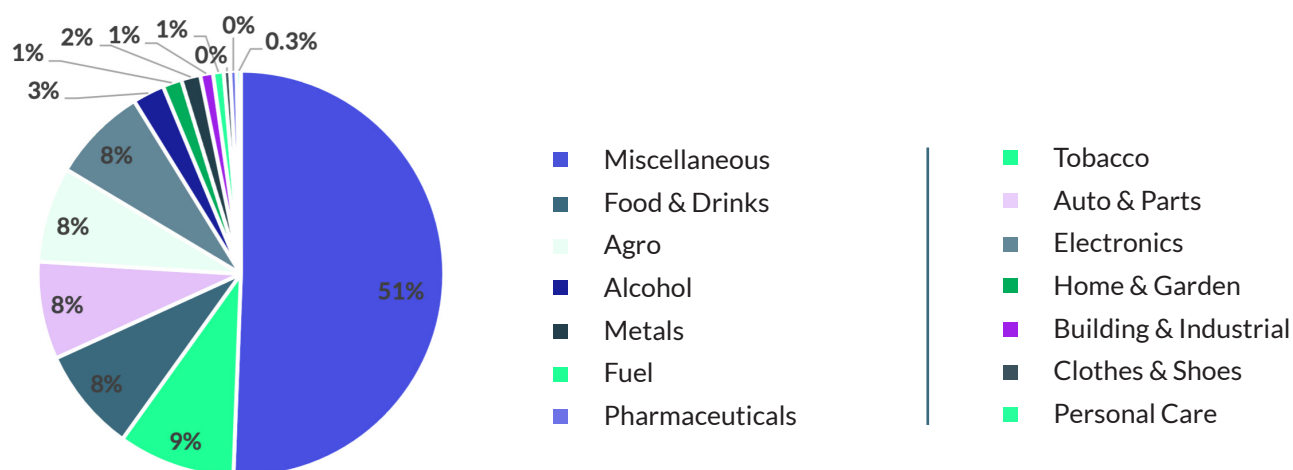
As for the times of day, a similar pattern was maintained to the first quarter of 2022, with the highest incidence of events in the morning between 6 a.m. and noon at 46%, which represented a decrease of one percentage point. Thefts occurring in the afternoon between noon to 6 p.m. showed a significant decrease of 6 percentage points over the previous year. The evening hours between 6 p.m. to midnight registered a significant increase of 6 percentage points, while the early morning hours between midnight and 6 a.m. experienced an increase of one percentage point.

Theft by Product Type

Miscellaneous cargo, which refers to mixed loads composed of different types of products in the same truck, was the most stolen type of product in Brazil in the first quarter of 2023, registering 51% of total thefts, with a 3% drop compared to the same period in 2022. In second place was Tobacco with 9%. In this category, the cigarette industry stands out not only for its high number of cargo theft events, but also its connection to smuggling. Cigarettes are smuggled mostly from Paraguay through the South region of Brazil, where they are distributed to the rest of the country. The *Food & Drink* category came in third place, with 8%, composed mainly of stolen meat. Also at 8%, fourth place went to Auto & Parts, which showed a significant increase of 6% compared to the same period in 2022. This raise is related to the increase in the number of truck, van, and SUV thefts, according to the Overhaul Data Base. As the country faces a shortage of parts, delays in the delivery of new cargo vehicles, and high interest rates for financing, criminals have aimed to supply the market with these stolen products. In the category of Auto & Parts, the theft of cargo vehicles represented 84% in the first quarter of 2023.



Chart 6: Cargo Theft in Brazil By Type of Product

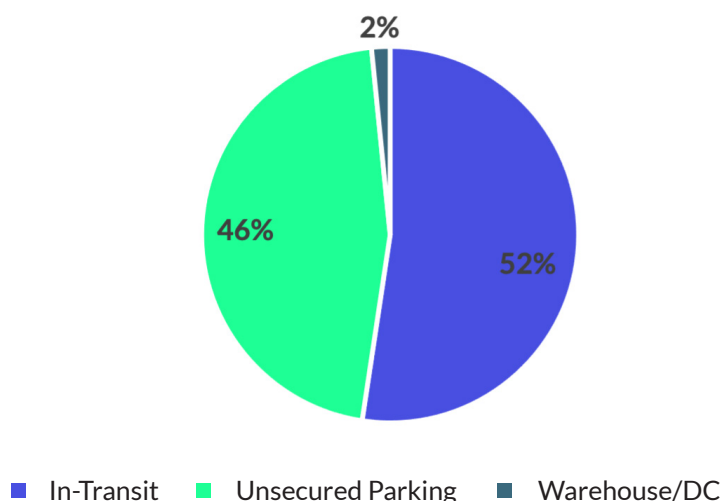


Theft by Location

Compared to 2022, in the first quarter of 2023, there was a significant increase in thefts from stopped vehicles. There was also an increase in thefts of in-transit vehicles with 52% of all incidents.

Still very evenly balanced, thefts from stopped vehicles usually occur at stops made by drivers for rest or meals. Criminals usually wait for the driver to leave the cab, thus avoiding security alerts from the vehicle's sensors. It is quite common for drivers to be accompanied by criminals during part of their trip. These criminals will force drivers to follow their procedures and routes in order to prevent the monitoring center from noticing their actions. In some cases, the criminals themselves will operate the security systems and comply with the rules.

Chart 7: Cargo Theft in Brazil By Location



Special Report Q1-2023

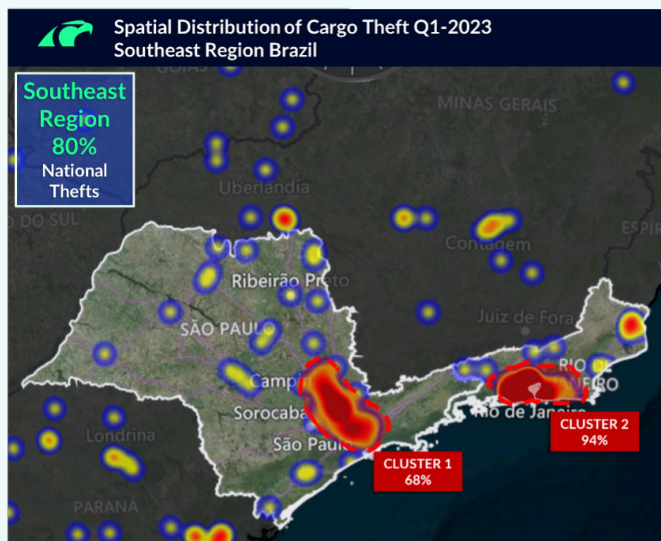
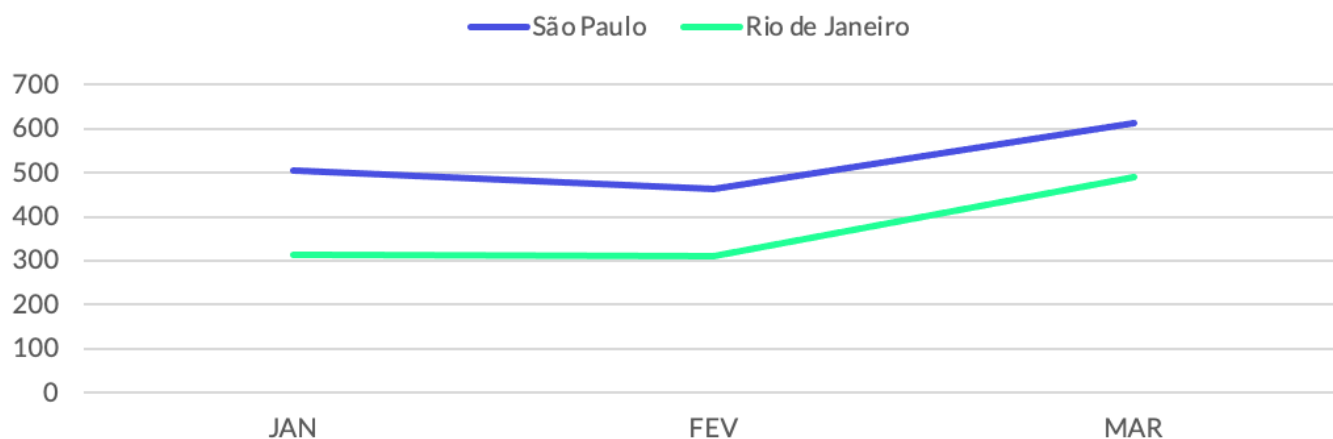
The Overhaul Intelligence Center decided to do a special report on theft from the *Auto & Parts* product category and the Southeast region of Brazil, both of which recorded substantial growth during the first quarter of 2023. In Q1-2023, 80% of cargo theft in Brazil was concentrated in the Southeast region, up four percentage points from the last report in 2022. The *Auto & Parts* product category was highlighted as the product type with the highest variation in the first half of 2023, representing 8% of all incidents and increasing six percentage points.



Cargo Theft in the Southeast Region

In the first quarter of 2023, 80% of cargo thefts in Brazil occurred in the Southeast, up four percentage points from the close of 2022, from 76% to 80%. The states with the highest risk in this region were São Paulo (47%) and Rio de Janeiro (27%).

Chart 8: Southeast Brazil Monthly Trend by State



The mesoregions with the highest incidence in the first quarter of 2023 correspond to São Paulo Capital (47%), Rio de Janeiro Capital (48%), Greater São Paulo (31%), and Baixada Fluminense (44%). The clusters in the image show the cargo theft representation of these regions in relation to the state. According to Overhaul's historical database, the trend of higher risk should continue to occur in the capital cities of São Paulo and Rio de Janeiro.

The most stolen product type in the Southeast region was *Miscellaneous*, with 60%, followed by *Electronics* (9%) and *Tobacco* (9%). Regarding times of day, 47% of thefts occurred in the morning between 6 a.m. and noon. The greatest criminal activity occurred on weekdays, with 89% of events occurring between Monday and Friday and 40% of occurrences on Wednesday and Thursday.

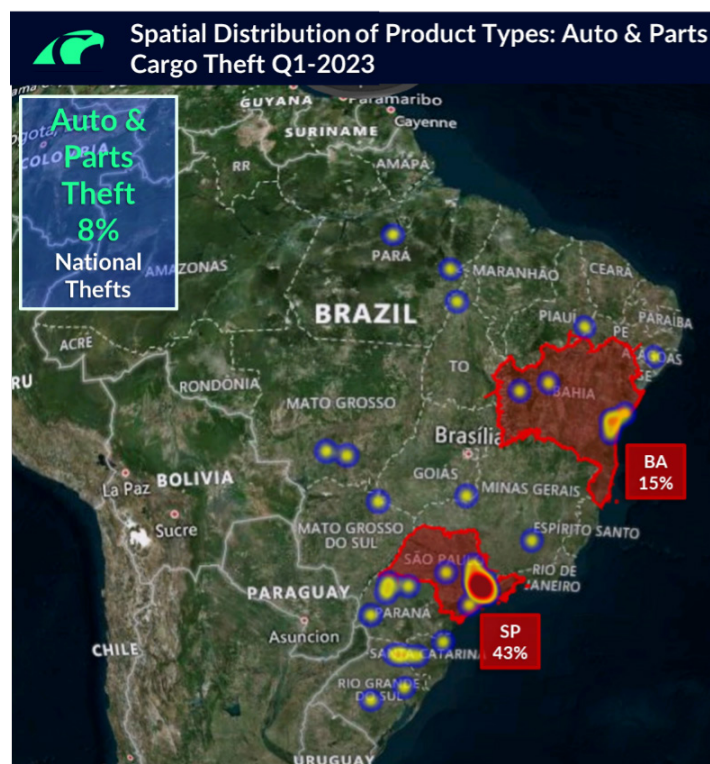
In São Paulo, the roads that presented the highest risk were SP-330, SP-065 and SP-280. In Rio de Janeiro, they were Avenida Brasil and Rodovia Washington Luiz.



Theft Analysis of Auto Parts Product

Thefts of products in the *Auto & Parts* category represented 8% of cargo thefts in Brazil. Ostensibly, this number doesn't appear significant. However, the 6% increase that occurred in this type of product calls our attention.

This product category covers thefts of cargo vehicles as well as parts, motorcycles, and cars that are being transported. 85% of the thefts within this category concerned cargo vehicles, small trucks, vans, and utility vehicles. This increase shows that criminals have not only become more interested in auto and parts products, but also in the vehicles that are transporting them. Like the other types of robberies, these thefts follow the same trend of occurring mostly on weekdays, but with higher occurrences on Friday (26%). The states with the highest risk in this region were São Paulo (47%) and Rio de Janeiro (27%).



The majority of auto and parts robberies occurred during the day at around 83%, and in the great majority of cases, these crimes were committed with the use of firearms and posed a direct threat to the drivers. The state of São Paulo presented the highest number of occurrences, representing 43% of all the events in the country. The state with the second highest occurrences was the state of Bahia in the Northeast region of the country with 15% of all occurrences. 69% of this type of crime occurred with vehicles parked at *Truck Stops and Service Stations*.

It should be noted that 83% of the events occurred in the mornings between 6 a.m. and noon. The roads which presented the highest risk of theft in this product category were SP-330, BR-040, and BR-116.

Success Case - Pesticides Recovery

In the early hours of February 16th, criminals broke into the distribution center of a transportation company in Itu-SP. Armed criminals forced the employees who were working at the site to surrender. They then stole three full trucks of pesticides. Part of the cargo was in Cross-Docking process and had tracking devices inside. Overhaul's Command Center worked with the company responsible for tracking these devices to start the process of cargo retrieval. That same afternoon, this joint action proved successful, and the cargo was recovered. The cargo was located around 1:30 p.m. in a warehouse in the city of Campinas-SP. With the support of the police, all three trucks were located, and the cargo, valued at approximately 4 million reais (about \$806,000) was fully recovered.



General Recommendations

Due to the increasingly present and developing organization of criminal groups in Brazil, Overhaul's Intelligence Center considers shipments in Brazil to be at SEVERE risk for cargo theft. Territorial expansion and specialization in certain crimes, such as cargo theft by criminal factions, generates every day an even greater need for special attention to cargo security.

The Southeast region of Brazil, as well as the metropolitan areas that have been the biggest targets for criminals, must be monitored and watched in a preventive way. It is extremely important that security measures are adopted not only by carriers and shippers, but also by drivers and their assistants who are often in more vulnerable positions in their daily routine on the roads. Stops at unsecured service stations that lack proper lighting, camera systems, or lookouts should be avoided.

Drivers should follow pre-defined routes and previously planned stops aimed at safety during the whole trip. It has also become increasingly important that organizations who operate the transport and storage of cargo seek to improve the use of technology onboard their vehicles, including the use of statistical analysis. By working with professionals specialized in risk management of the supply chain and actively planning and organizing these trips, companies responsible for road freights can make a difference in the fight against cargo crime.

