OVERHAUL

Mexico Annual Report 2022

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Executive Summary

Cargo theft in Mexico continues to disrupt and harm various industries, from Food and Beverages to Auto Parts. The country has been at the center of an increase in criminal activity, which threatens to worsen in 2023. Recent recovery efforts from COVID-19 have further unsettled the ecosystem, leading to a spike in thefts that closely matches pre-pandemic numbers, and might soon surpass them.

Overhaul's 2022 Annual Report is meant to highlight the ways in which cargo theft events in Mexico are evolving. This understanding is critical in order to help shippers and drivers prepare for and avoid risks. To that end, it is our goal to provide an overview of what cargo theft in Mexico will look like in 2023 based on patterns witnessed in 2022.

In order to conduct our analysis, Overhaul compiled data concerning which locations in Mexico were most susceptible to theft. We also looked at the days and times that experienced the greatest number of thefts, as well as what types of products were taken. Finally, we analyzed whether the thefts occurred at a facility, stopped unit, or unit in transit.

We then performed a deep dive into specific focus areas for Mexico based on our findings. Specifically, we homed in on cargo thefts occurring in Puebla, as well as those involving auto parts.

We discovered that increases in cargo movement in 2022 corresponded with increases in theft, and the regions in which these events took place significantly narrowed. Central Mexico had the highest incidence of cargo theft in the country, with the states of Mexico (37%) and Puebla (15%) accounting for 52% of all thefts. Food and Beverages were especially at risk, followed by Construction and Industrial (13%), Miscellaneous (12%), Home and Garden (6%), and Metals (5%).

In 2023, cargo theft events in Mexico are expected to rise from 20,131 to 23,054. These numbers show definitively that cargo theft must be taken seriously, and the range of affected industries and times in which an attack may occur highlight how important it is to have the right tools and technology to keep your shipments safe.

We hope this report helps you better understand the cargo theft patterns experienced in Mexico during 2022 and how this data has informed Overhaul's predictions for 2023. In turn, these predictions can help you better plan your shipping routes and outfit your carriers with the electronic security and real-time monitoring solutions to best protect your cargo.
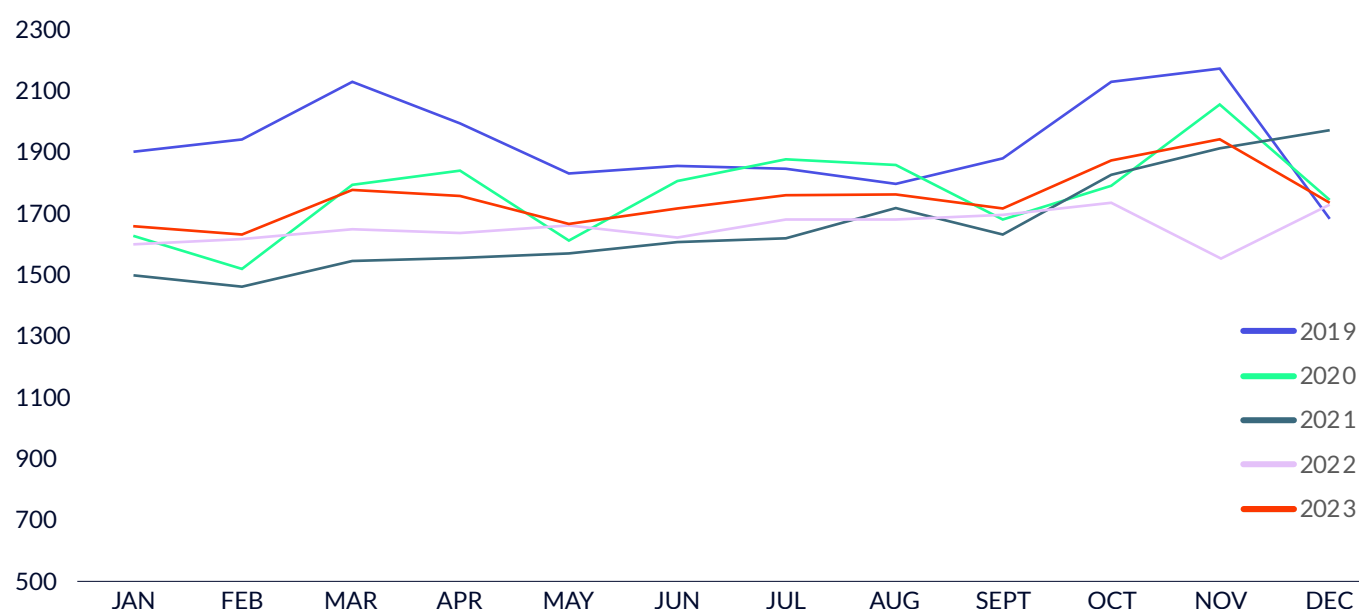
Mexico: 2022 Cargo Theft Report

The Overhaul Intelligence Center recorded a total of 20,131 cargo theft events in Mexico for 2022, which represents an increase of 1.3% compared to 2021. This equates to an average of 1,748 cargo thefts per month and 58 thefts per day. Unlike the previous years which showed decreases of 9% in 2020 and 14% in 2021 relative to 2019, 2022 showed an increase that is close to pre-pandemic cargo theft figures, as seen in **Graph 1**.

In a stable scenario, the time series analysis prepared by Overhaul suggests that cargo theft nationwide will increase by 4.2%. In a pessimistic scenario, an increase of 14.5% is predicted. This estimate of 23,054 thefts in 2023 is just 10.3% below the events recorded in 2019.

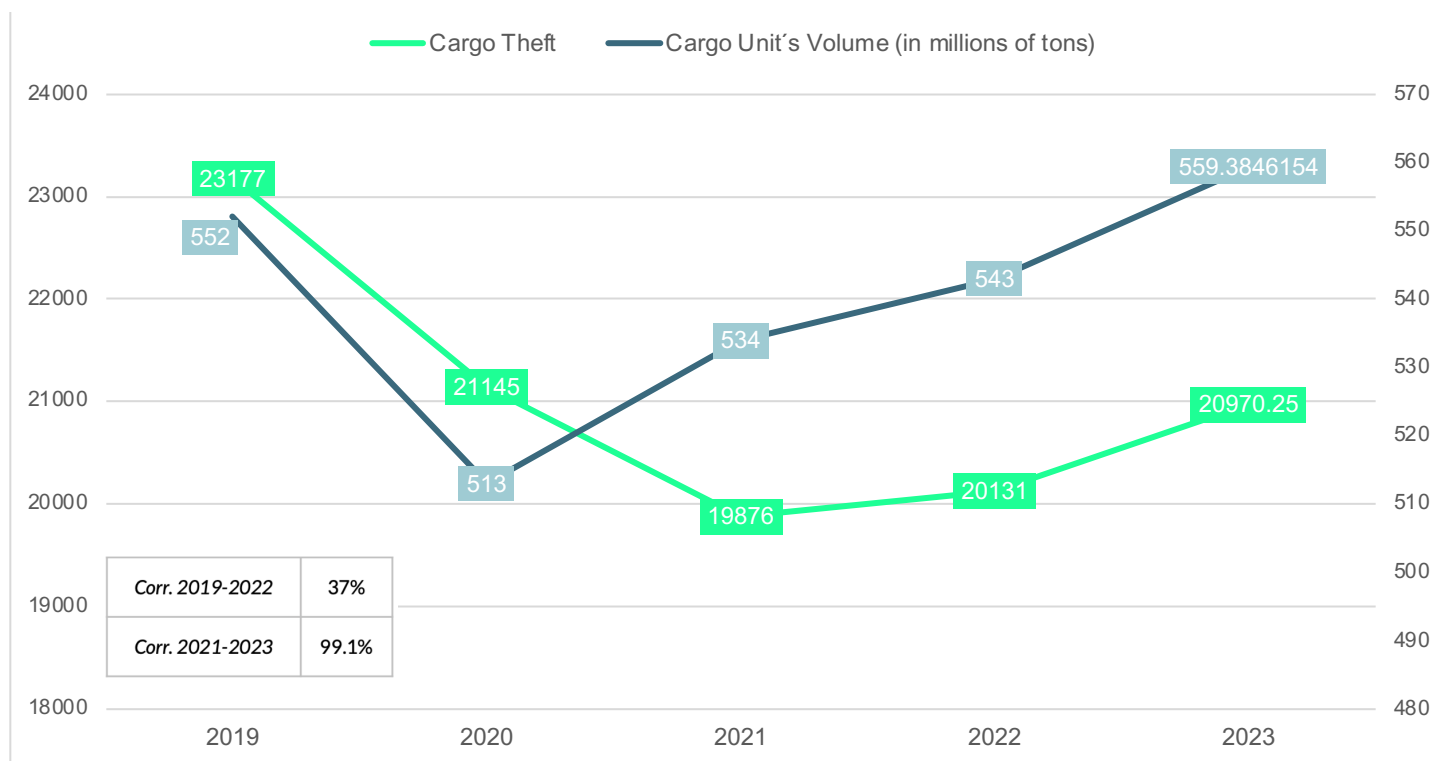**Graph 1: Cargo Theft Monthly Trends 2019-2022/ Predictive Analysis 2023**

One variable that explains Mexico's increase in cargo theft during 2022 is the increase in cargo movement. In the 2022 Domestic Movement of Load by Transport Mode Report published by the Mexican Institute of Transport (IMT), it was reported that 552 million tons had been moved across federal public self-transport roads in 2019. This amounted to 86.1% of the national total. For 2020 and 2021, the movement of cargo decreased 7% and 3% due to the decline of goods disposal resulting from COVID-19 in 2019.

By 2022, highway freight movement had recorded 543 million tons, representing an increase of 2% from 2021 with a growth trend close to the figures recorded in 2019. Cargo theft events reported by Overhaul in Mexico for 2022 followed the same upward behavior. The annual trend of both variables is seen in **Graph 2.** There is a correlation of 37% when comparing the period from 2019 to 2022 and a 99.1% correlation from 2021 to the 2023 projection, corresponding with the post-pandemic economic reactivation.

Graph 2: Annual Comparative 2019 - Projection 2023
Cargo Theft vs Cargo Unit's Volume Trends

Cargo Theft — Cargo Unit's Volume (in millions of tons)

Corr. 2019-2022	37%
Corr. 2021-2023	99.1%

Data points:
- 2019: Cargo Theft 23177, Volume 552
- 2020: Cargo Theft 21145, Volume 513
- 2021: Cargo Theft 19876, Volume 534
- 2022: Cargo Theft 20131, Volume 543
- 2023: Cargo Theft 20970.25, Volume 559.3846154

Based on data published by the IMT from 2010 to 2022, Overhaul foresees an increase of 3% in the domestic movement of goods on road and an increase of 4.2% of cargo theft for 2023 in a stable scenario.

Spatial and Temporal Analysis of Cargo Theft in Mexico

At a national level, a spatial analysis of our data shows a 1.5% reduction in the territorial area in which 68.3% of cargo theft crimes occurred in Mexico, which went from 10.3% to 8.8% between 2021 and 2022. That is, two out of three crimes in 2022 occurred in 8.8% of the national territory. If this trend continues, 68.3% of cargo theft events in 2023 will occur in less than 8.8% of the national territory. This means that the number of crimes is growing and concentrating in an increasingly smaller space near the Central area of the country, particularly in the states of Mexico and Puebla. In 2023, at least 56% of cargo theft crimes at the national level will be present in these two states, according to Overhaul's prospective analysis.

RIESGO MÁS BAJO   RIESGO MÁS ALTO

Regional Analysis

In 2022, Mexico's 1.3% increase in cargo theft was reflected mainly in the Central region, with a variation of six percentage points compared to 2021, from 55% to 61%. The four states that presented the highest risk of theft during the year are in this region: Mexico (37%), Puebla (15%), Hidalgo (4%), and Tlaxcala (3%).

Graph 3: Cargo Thefts by Region 2022

4% North East
1% North West
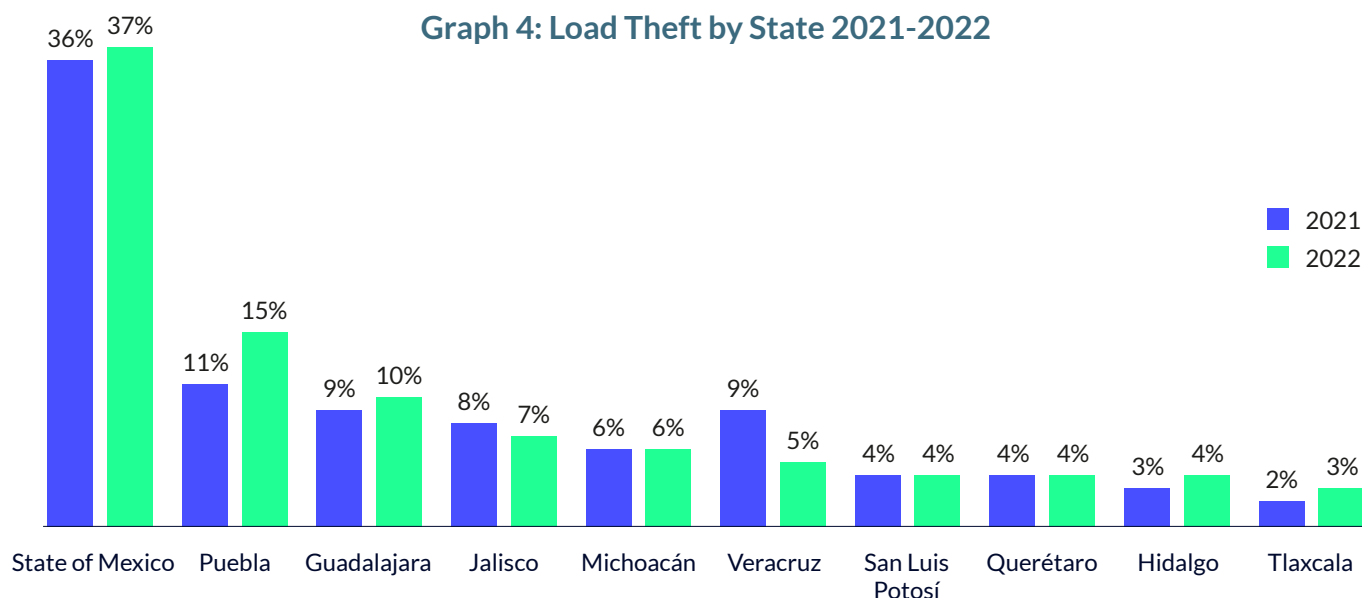7% South East
27% West
61% Center
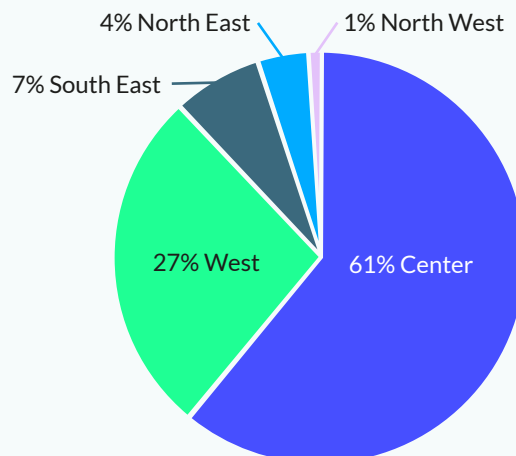
Source: Own development with data from Overhaul Intelligence Center

Analysis of the 10 States with the Highest Number of Cargo Thefts

The states of Mexico and Puebla accounted for 52% of all thefts at a national level. Since 2019, the state of Mexico has presented the highest risk of theft to carriers. Puebla took the second position in 2022 and experienced the largest increase with 41.3%. This behavior began from the second half of 2021 and was maintained in 2022 with a monthly average of 243 thefts. It is expected that by 2023 this conduct will continue to grow to an average of 257 events a month.

Figures published by the National Public Security System (SNSP) in 2022 indicate that 44% of the country's violent theft events were recorded in the state of Mexico, with an additional 20% in Puebla. That is, 64% of all violent cargo theft events occurred in these two states.

Graph 4: Load Theft by State 2021-2022

Legend: 2021, 2022

| State	2021	2022
State of Mexico	36%	37%
Puebla	11%	15%
Guadalajara	9%	10%
Jalisco	8%	7%
Michoacán	6%	6%
Veracruz	9%	5%
San Luis Potosí	4%	4%
Querétaro	4%	4%
Hidalgo	3%	4%
Tlaxcala	2%	3%

Source: Own development with data from Overhaul Intelligence Center
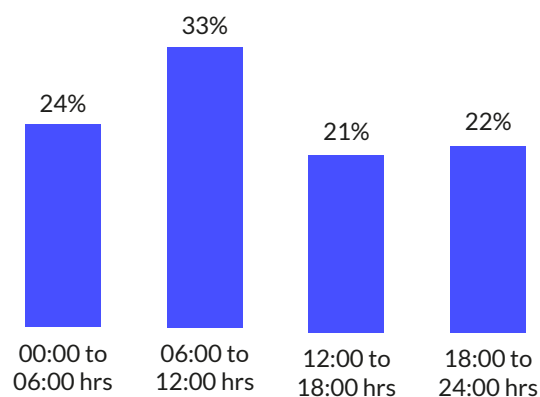
Thefts Per Day & Hour

During 2022, cargo theft events in Mexico predominated on workdays (Monday through Friday), with Thursday presenting the highest risk at 19%. In 2021, the day with the greatest percentage of thefts was Wednesday at 21%, which shows a temporary displacement in criminal activity. This high concentration of theft on workdays shows the professional activity of criminal groups oriented to cargo theft.

Graph 5: Load Theft per Day of the Week 2022

Day	Percentage
Sunday	7%
Monday	14%
Tuesday	17%
Wednesday	17%
Thursday	19%
Friday	17%
Saturday	9%
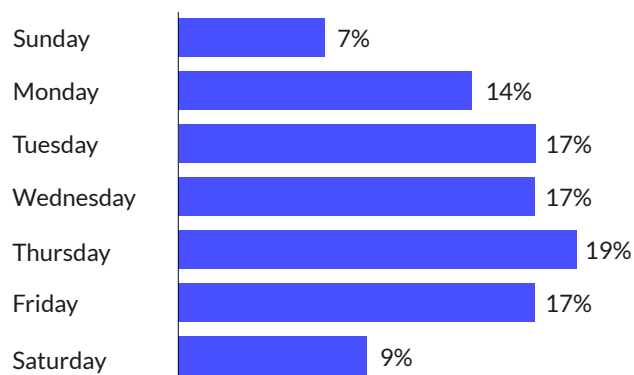
Source: Own development with data from Overhaul Intelligence Center

Graph 6: Load Theft by Schedule 2022

Schedule	Percentage
00:00 to 06:00 hrs	24%
06:00 to 12:00 hrs	33%
12:00 to 18:00 hrs	21%
18:00 to 24:00 hrs	22%

Source: Own development with data from Overhaul Intelligence Center

As for timetables, the pattern remained similar to that of 2021, with 33% of all cargo theft events taking place between 6:00 a.m. and 12:00 p.m. Thefts occurring in the afternoon between 12:00 p.m. and 6:00 p.m. showed a decrease of three percentage points compared to the previous year, while the evening hours between 6:00 p.m. and 12:00 a.m. recorded an increase of two percentage points. Therefore, as with the days of the week, a temporal displacement in criminal activity was also observed in the hours of the day.
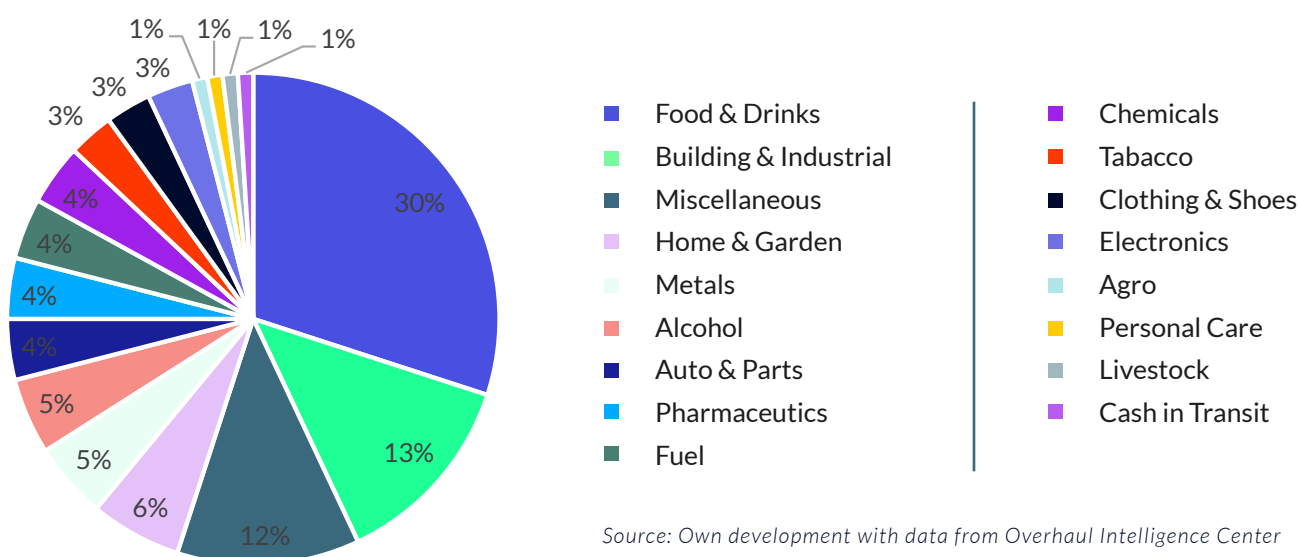
Theft by Product Type

In 2022, Food and Beverage was the most stolen product type in Mexico, registering 30% of total thefts and maintaining its position from 2021. The most stolen subtypes within this category were canned and dry products (20%), fruits and vegetables (15%), and mixture of miscellaneous products (13%). The three states that reported more theft of Food and Beverage were the state of Mexico with 19%, Puebla with 18%, and Veracruz with 10%.

The second most stolen product type corresponds to Construction and Industrial with 13%, followed by Miscellaneous (12%), Home and Garden (6%), and Metals (5%).

The product types that experienced theft increases in 2022 were Construction and Industrial (+7%), Auto Parts (+3%), Fuel (+1%), Tobacco (+1%), and Livestock (+1%).

Graph 7: Cargo Theft by Product Type 2022

Legend:
- Food & Drinks
- Building & Industrial
- Miscellaneous
- Home & Garden
- Metals
- Alcohol
- Auto & Parts
- Pharmaceutics
- Fuel
- Chemicals
- Tabacco
- Clothing & Shoes
- Electronics
- Agro
- Personal Care
- Livestock
- Cash in Transit

Source: Own development with data from Overhaul Intelligence Center

Theft by Type of Location

In 2022, the theft of cargo units in transit remained the main mode of operation used by criminals in Mexico. The theft of detained units showed an increase of 13 percentage points compared to 2021. 66% of these thefts were presented at detention points known as cachimbas and huachicoleras.
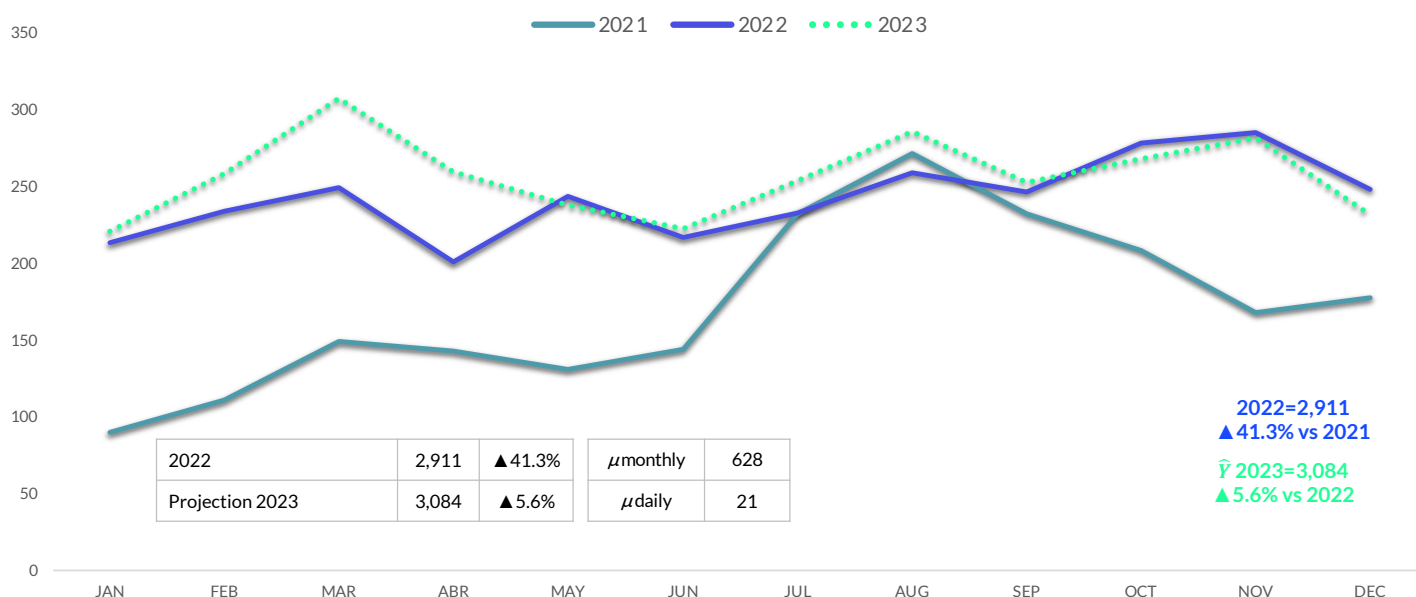
Special Report 2022

The Overhaul Intelligence Center decided to do a special report on load theft in the state of Puebla and the theft of auto parts, as both registered substantial growth during 2022. The state of Puebla recorded the largest increase in cargo theft at a national level, occupying the second place for the second consecutive year. Incidents of auto parts theft increased by 3% in 2022, largely derived from the growth of the automotive industry in Mexico.

Cargo Theft in Puebla

In 2022, 2,911 cargo thefts were recorded in Puebla. This represented an increase of 41.3% from the previous year with an average of 243 monthly thefts and nine daily events.

Graph 8: Puebla Cargo Theft Monthly Trends 2021-2022 Predictive Analysis 2023

Legend: 2021 — 2022 — 2023 ·····

2022	2,911	▲41.3%	μmonthly	628	
Projection 2023	3,084	▲5.6%	μdaily	21	

2022=2,911
▲41.3% vs 2021

$\hat{Y}$ 2023=3,084
▲5.6% vs 2022

X-axis: JAN FEB MAR ABR MAY JUN JUL AUG SEP OCT NOV DEC

Based on the space-time statistics of the Overhaul Intelligence Center, 71% of thefts in the state were concentrated on the México-Veracruz (MEXIC-150D) highway. The municipalities with the highest incidence in 2022 were San Martin Texmelucan (23%), Puebla (14%), La Esperanza (6%), Amozoc (6%), and Quecholac (5%). By 2023, the highest risk is expected to continue in San Martin Texmelucan and nearby municipalities.

The most stolen product type in the state was Food & Beverages at 38%, followed by Miscellaneous (10%), Pharmaceutical (8%), Home & Garden (7%), and Construction & Industrial (7%). The displacement of criminal activity in Puebla shows that the crimes passed from night to day, with 48% of thefts occurring between 5:00 a.m. and 12:00 p.m. Similar to national rates, criminal activity in Puebla mainly took place Monday to Friday (86%) as a professional activity.
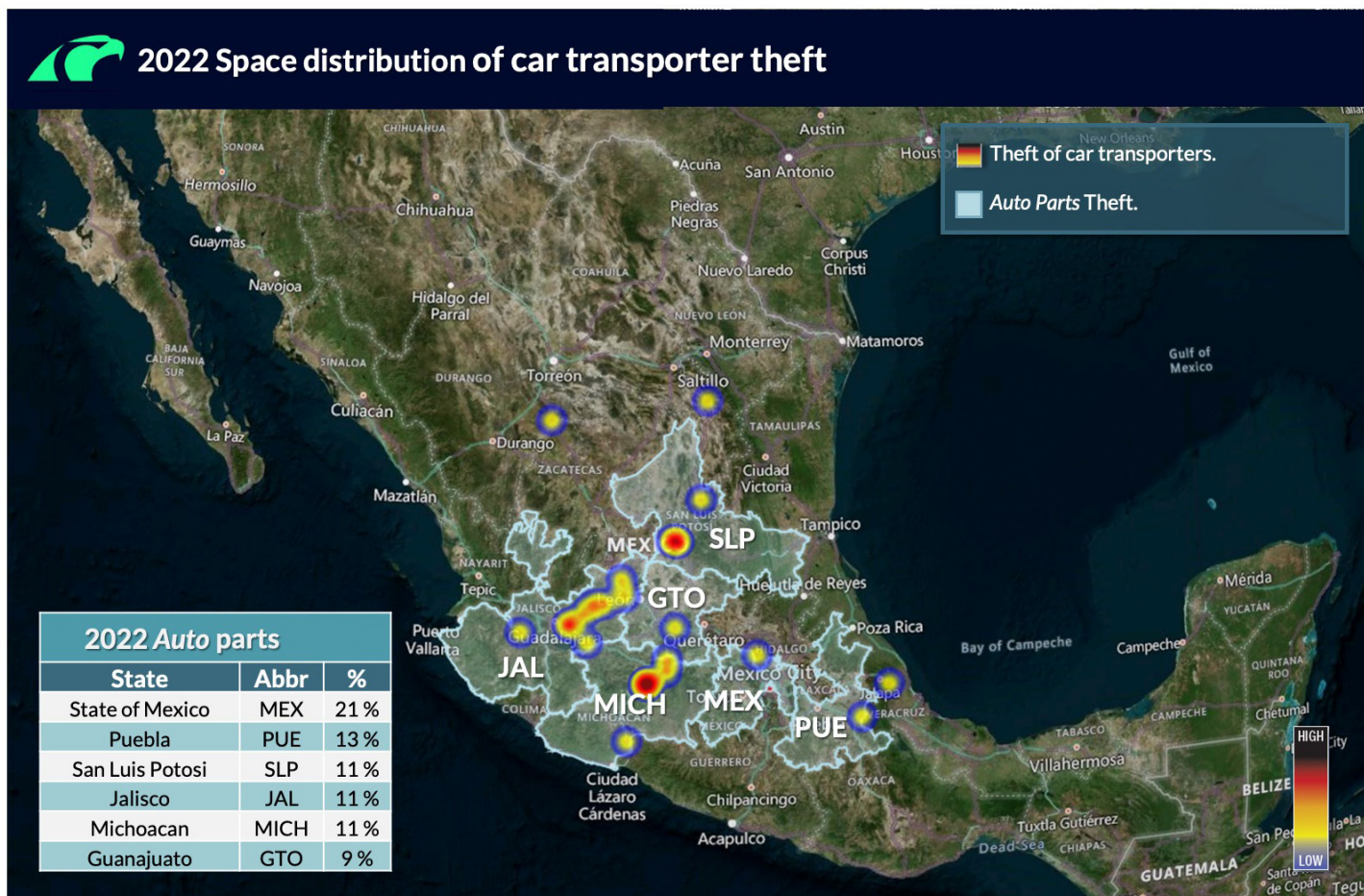
According to the National Public Security System (SNSP), 97% of the carrier theft events in Puebla in 2022 involved violence.

2022 Space distribution of cargo theft
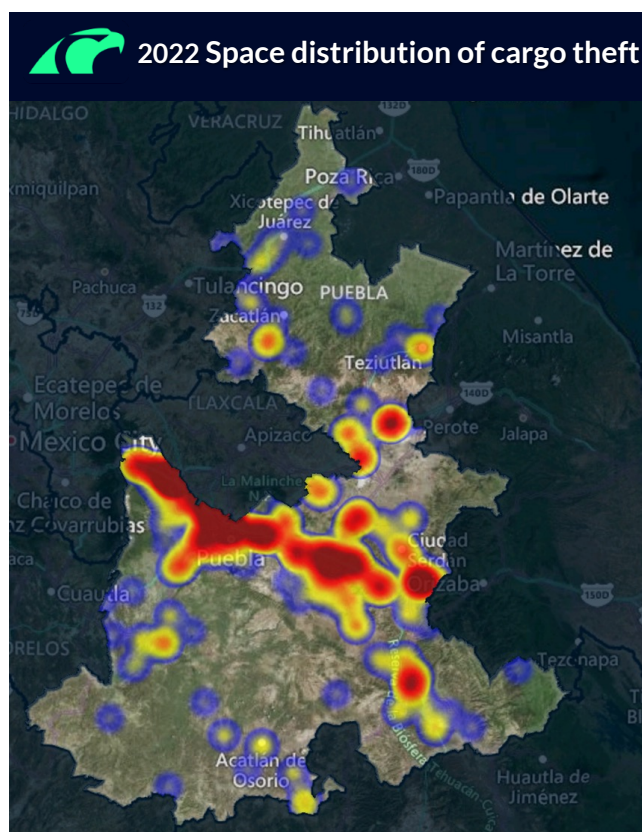
Auto Parts

In 2022, 4% of all cargo thefts in Mexico involved auto parts. This category increased 3% from the previous year. 67% of auto parts theft was concentrated in the state of Mexico (21%), Puebla (13%), San Luis Potosi (11%), Jalisco (11%), and Michoacan (11%). The most stolen product subtypes for this category are parts and liquids for vehicles (46%); vehicles, off-road vehicles, & boats (40%); tires (13%); and tractors & trailers (2%).

2022 Space distribution of car transporter theft

Legend:
- Theft of car transporters.
- *Auto Parts* Theft.

2022 *Auto parts*		
State	**Abbr**	**%**
State of Mexico	MEX	21 %
Puebla	PUE	13 %
San Luis Potosi	SLP	11 %
Jalisco	JAL	11 %
Michoacan	MICH	11 %
Guanajuato	GTO	9 %

It should be noted that 30% of the theft events involved vehicle transporters, also known in Mexico as madrinas or nodrizas (car transporters). This type of theft was present in the states of Michoacan (29%), San Luis Potosi (21%), Jalisco (17%), Guanajuato (8%), and Puebla (8%). The highest number of incidents took place in the months of June (28%), November (28%), and December (9%).

One explanation behind the increase in car and auto parts theft is the automotive industry's production increase. The National Institute of Auto Parts (INA) indicated that the sector had an increase of $106,741 million in auto parts production during 2022. This represents an increase of 12.73% compared to 2021.[2] The Mexican Association of the Automotive Industry (AMIA) also recorded an increase in the production of light cars during 2022, indicating an increase of 9.2% compared to 2021. This association suggests that the trend will continue in 2023 with an increase of 6.6%.[3]

Recommendations

The Overhaul Intelligence Center considers Mexico to be a CRITICAL cargo theft risk entity, due to the use of violence by criminal groups and the high concentration of crime, especially in the Central area of the country. Therefore, it is advised that cargo vehicle operators traveling through Mexico take extreme precautions and remain alert throughout the trip, especially in areas of high risk and loss of signal. In addition, it is recommended to use layers of electronic security with real-time monitoring, which enable risk mitigation and increase the possibility of cargo recovery in case of theft.

Drivers should receive defensive driver training and be instructed on how to identify high risk situations on the road, such as suspicious individuals and vehicles, which should be reported to the Monitoring Center. Likewise, it is advisable that transportation be carried out during the daytime and that loading units be kept in good mechanical conditions. Lastly, drivers should travel on routes with previously defined detention points based on a risk analysis.