New Zealand Vehicle Theft Analysis

Analyst: Grace Godwin Okechukwu

Tool Used: Excel

Project Type: Data Analysis & Dashboard Design

Dataset: Vehicle Theft Data from New Zealand

Objective: To analyze vehicle theft patterns, identify high-risk factors, and recommend data-driven security strategies.

Insights & Findings

1. Total Number of Vehicle Thefts

A total of 4,527 vehicle theft incidents were recorded. This highlights a significant security concern across the 16 monitored regions.

2. Theft Trend Over Time

Theft patterns show monthly fluctuations, with a noticeable spike in March and April 2022. Suggests seasonality or event-driven increases in theft activity.

3. Most Affected Locations

Auckland, Bay of Plenty, and Canterbury recorded the highest number of thefts. These urban regions likely experience more thefts due to higher vehicle density and parking exposure.

4. Most Stolen Vehicle Brands/Models

The top five stolen models include: Toyota, Trailer, Nissan, Mazda, and Ford. These brands may be more vulnerable due to their market popularity or weaker anti-theft technology.

5. Theft Distribution by Time of Day

Most thefts occurred during midnight to 6 a.m., indicating a vulnerability during low-surveillance hours.

6. Theft Distribution by Day of the Week

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Sunday, Monday, and Wednesday experienced slightly higher theft rates. Reflects a trend toward specific days with reduced public vigilance or fewer patrols.

7. Theft by Vehicle Type

Stationwagons and Saloons were the most frequently stolen vehicle types. These vehicles may be more accessible or commonly used, increasing their exposure to theft.

8. Theft by Color of Vehicle

White and Silver vehicles were the most targeted. Likely due to their high visibility and ease of blending in with other vehicles.

9. Theft Rate per 1,000 Registered Vehicles

This metric was not calculated in the dashboard due to lack of registration data. Including it would allow more precise regional comparisons.

10. Seasonal Trends in Theft

A surge in theft was observed between December and April, aligning with holiday and travel periods. Indicates a seasonal vulnerability, possibly due to lower enforcement and longer periods of unattended vehicles.

Recommendations

1. Strengthen Security in High-Theft Locations

Increase police patrols and install more surveillance in high-risk areas like Auckland and Canterbury. Improve lighting in public parking lots.

2. Time-Targeted Enforcement

Focus security efforts between 12 a.m. and 6 a.m., especially on Sundays, Mondays, and Wednesdays.

Employ community-led patrols or neighborhood watch programs.

3. Public Awareness & Education

Launch regular safety campaigns advising car owners to lock vehicles, avoid isolated parking spots, and use steering wheel locks. Provide security tips based on current trends.

4. Encourage Use of Anti-Theft Technology

Promote GPS trackers, immobilizers, and alarm systems?especially for older car models lacking modern security.

5. Vehicle Owner Guidance

Advise individuals purchasing white/silver vehicles or Toyota/Saloon types to apply extra security measures. Share brand-specific theft risks in dealerships and service centers.

6. Seasonal Surveillance Strategy

Scale up security and monitoring during holiday seasons (Dec?April) when theft rates peak. Combine this with travel safety reminders for drivers.

7. Data Enhancement & Integration

Incorporate vehicle registration data to calculate theft rates per 1,000 vehicles. Use this to guide insurance profiling and law enforcement budgeting.

Conclusion

This vehicle theft analysis uncovers actionable patterns based on geography, time, vehicle characteristics, and seasonal influence. The dashboard empowers stakeholders to make data-driven decisions for crime prevention, vehicle safety, and strategic enforcement.

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Use Case: GitHub Portfolio | PDF Report | LinkedIn Showcase