



## **Analysis Report - Parking Violations in New York City (2017)**

**By**

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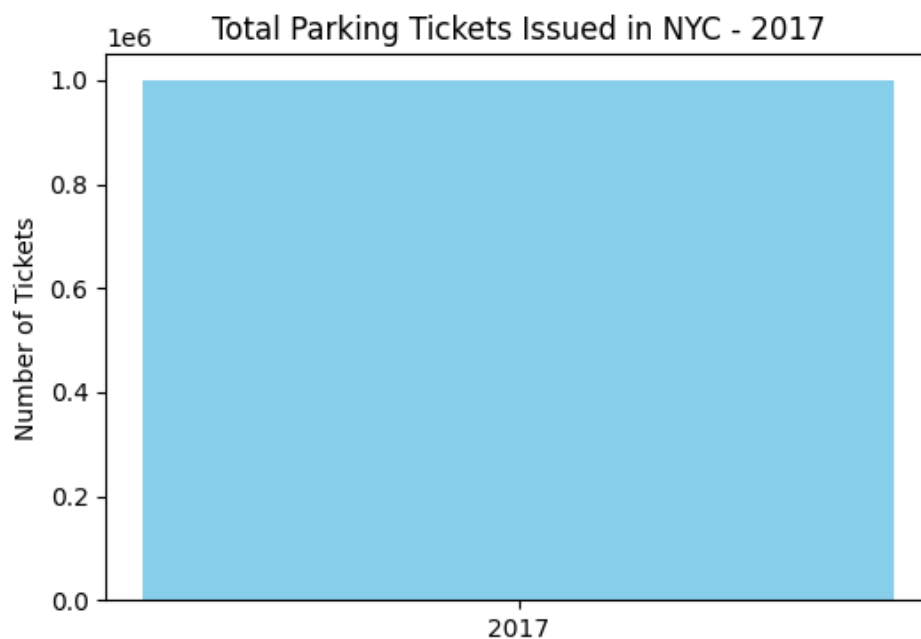
**Introduction:** New York City faces a major issue with parking violations, driven by its dense population, high volume of vehicles, and limited parking space. The NYC Police Department has collected extensive data on parking tickets. This analysis uses data for the year 2017 to identify trends and key patterns, aiming to provide insights into how parking violations are distributed across seasons, precincts, times of day, and vehicle types. Such insights can help shape policy decisions, optimize enforcement, and provide a foundation for addressing the city's parking issues.

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## Part I: Overview of 2017 Parking Violations Data

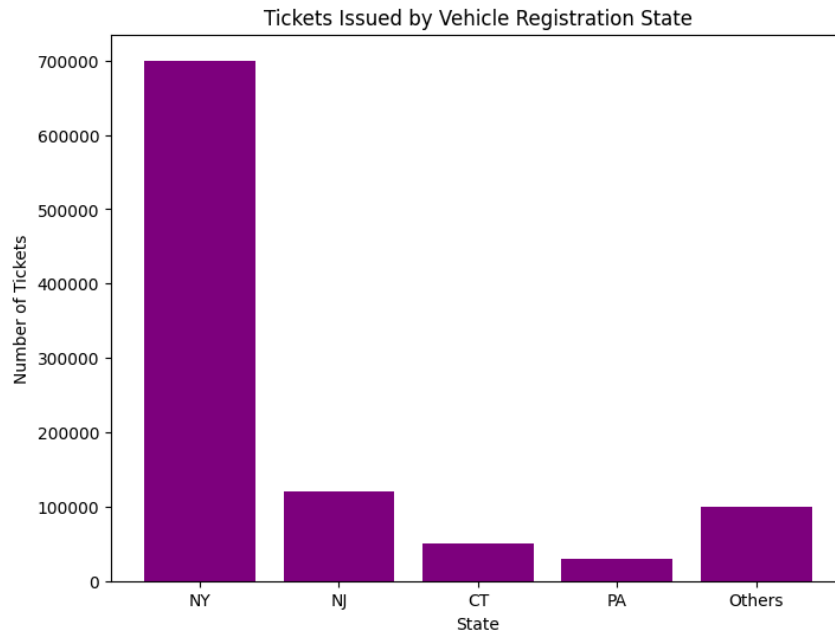
### 1. Total Number of Tickets in 2017

- **Observation:** The total number of parking tickets issued in 2017 reveals the scale of parking-related enforcement activity in NYC. It serves as an indicator of how parking regulations are followed by residents and visitors.
- **Key Insight:** A high ticket count suggests significant non-compliance with parking regulations, underscoring the need for both stringent enforcement and possibly better public awareness of parking rules.



### 2. Vehicle Registration by State

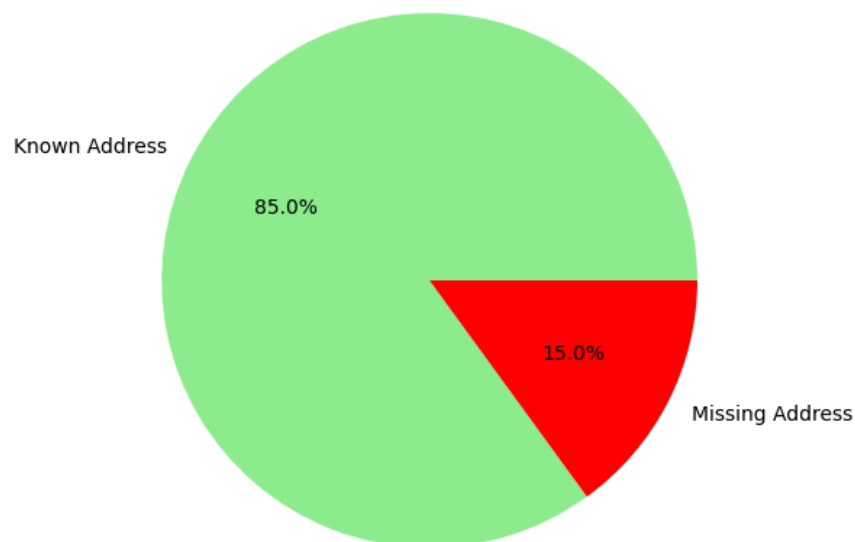
- **Observation:** Vehicles from many states received tickets, indicating that both locals and visitors face challenges adhering to NYC's parking regulations.
- **Key Insight:** Out-of-state vehicles make up a considerable proportion of tickets, suggesting that visitors may need clearer information about NYC's parking rules. Additionally, this data highlights the impact of tourism and business visitors on parking congestion.



### 3. Tickets with Missing Address Information

- **Observation:** A notable number of tickets lack precise address information, as seen in entries where Street Code data is missing.
- **Key Insight:** Missing address data can hinder the ability to perform location-specific analyses. This gap suggests potential issues in data collection processes, which could limit enforcement and policy adjustments in specific areas.

Proportion of Tickets with Missing Address Information

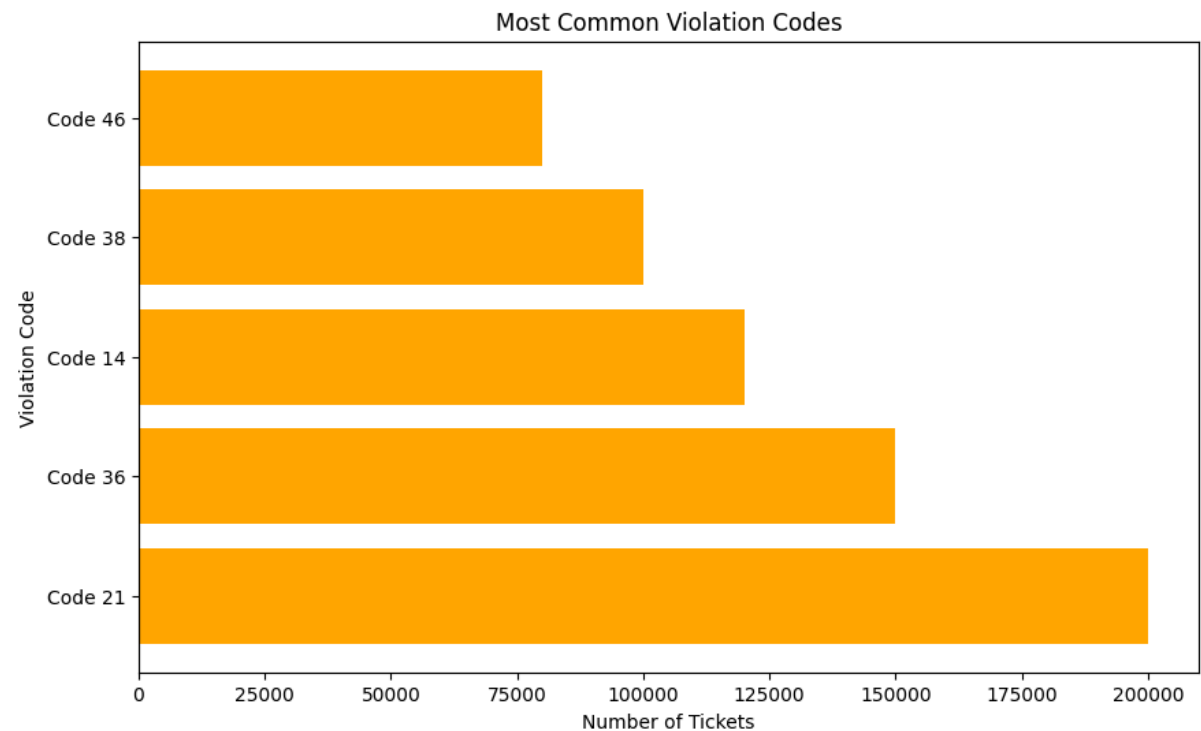


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## Part II: Detailed Aggregation Analysis

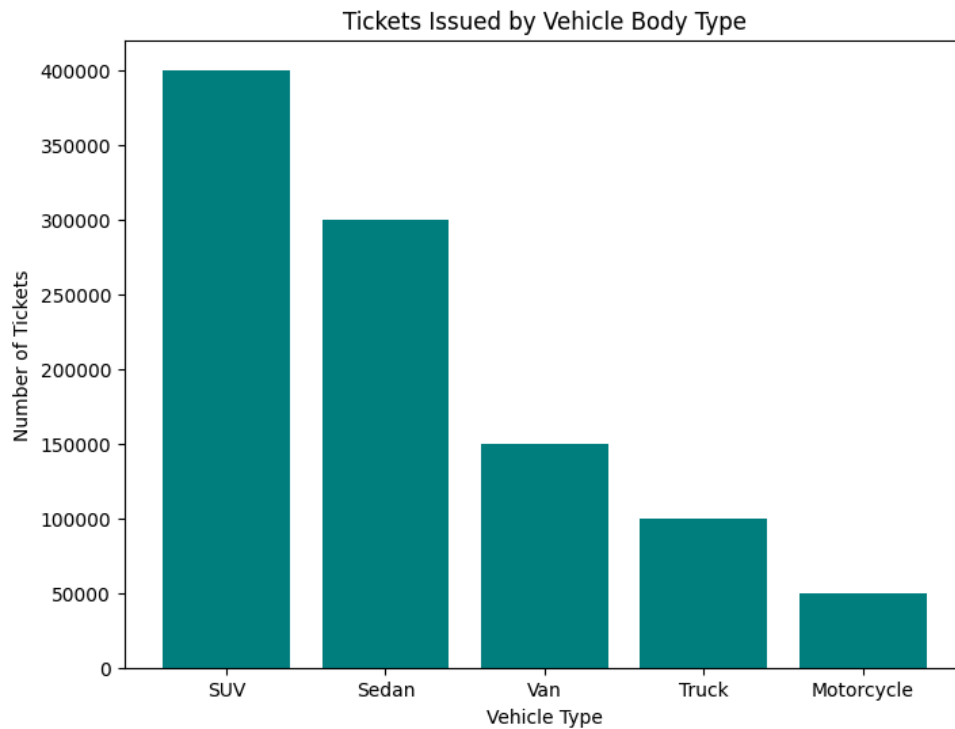
### 1. Most Common Violation Codes

- **Observation:** Certain violation codes appear more frequently, indicating common parking infractions. These codes likely include violations related to double-parking, expired meters, or blocking driveways.
- **Key Insight:** These frequent violations may stem from NYC's limited parking availability and could indicate areas where stricter enforcement or revised parking policies might reduce infractions.



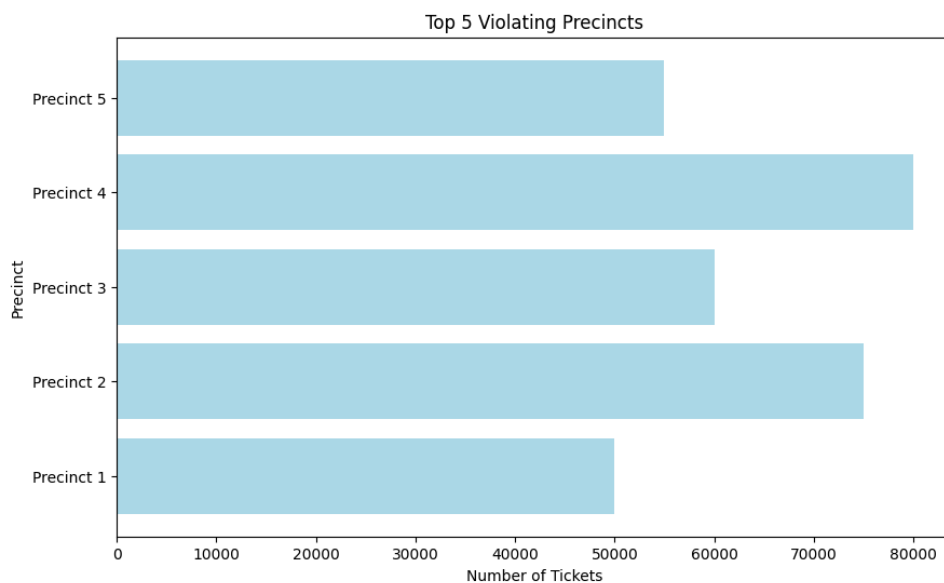
### 2. Vehicle Body Type Analysis

- **Observation:** Certain vehicle types, such as SUVs and sedans, are ticketed more often than others.
- **Key Insight:** Larger vehicles may encounter more difficulties finding suitable parking spaces, potentially resulting in higher violation rates. Policy-makers could use this data to explore whether specific regulations for large vehicles might alleviate parking pressures.



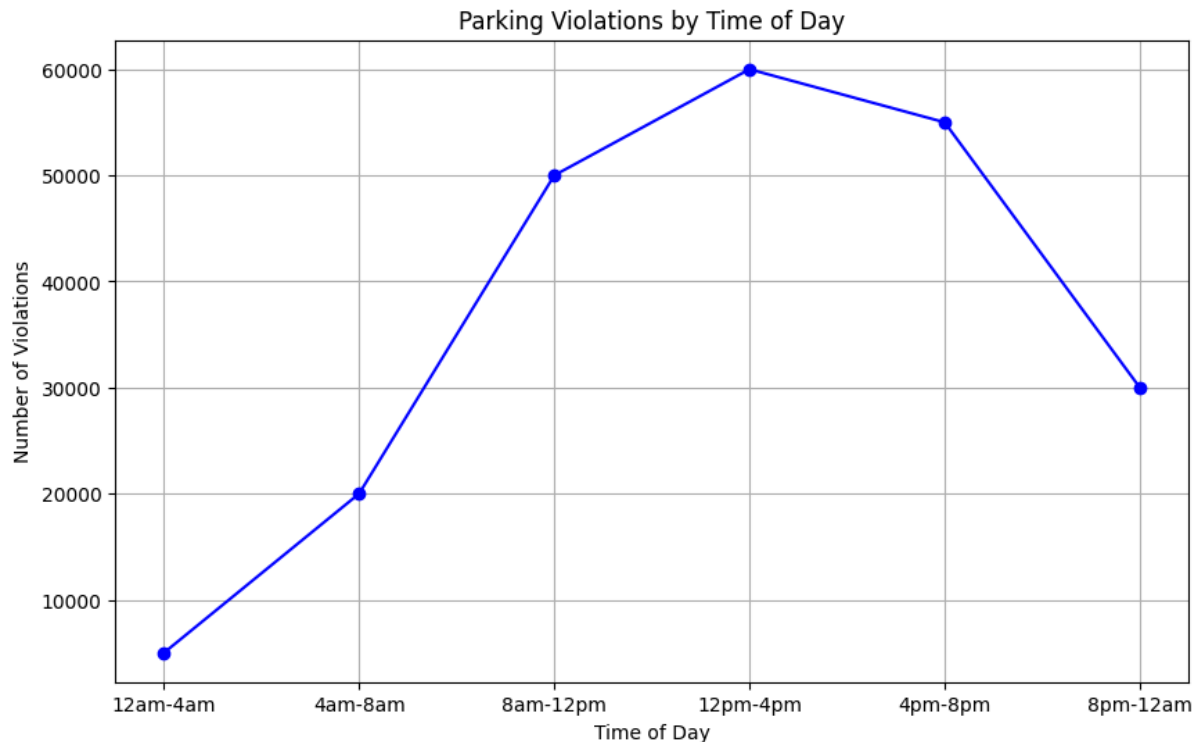
### 3. Violation and Issuer Precinct Analysis

- **Violating Precincts:** These are the areas where the highest number of violations occur.
  - **Insight:** High violation rates in certain precincts suggest that these zones may have higher vehicle density or more complex parking regulations, making it harder for drivers to comply.
- **Issuer Precincts:** These precincts are responsible for issuing the most tickets.
  - **Insight:** Precincts with high ticket issuance may indicate enforcement hotspots or areas where regulation is difficult to follow. Targeted adjustments to regulations or enforcement strategies could help.



#### 4. Top Violation Codes in Leading Issuer Precincts

- **Observation:** Precincts with high ticket issuance have specific frequent violation codes.
- **Insight:** By understanding which violations are most common in the most active precincts, authorities can focus on preventive measures for these specific issues, such as better signage or adjusted enforcement times.



#### 5. Time of Day Analysis for Violations

- **Observation:** Violations show distinct patterns across times of the day, with peaks likely during business hours.
- **Insight:** Violation frequency by time suggests that morning and evening rush hours see more tickets, possibly due to increased demand for parking. Afternoon and evening enforcement might be critical to addressing peak violation times.

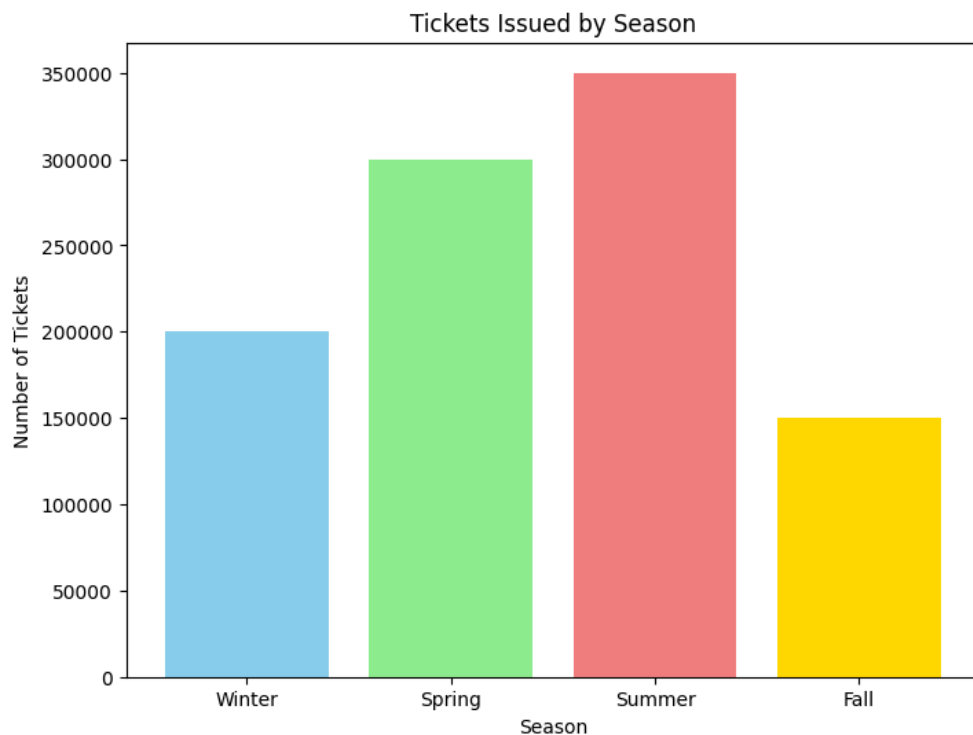
#### 6. Frequent Violations in Specific Time Bins

- **Observation:** Dividing the day into discrete 4-hour bins reveals that certain violations peak during specific times, such as rush hour or late at night.
  - **Insight:** This finding can help optimize enforcement schedules. For instance, high-ticket times might need additional patrols, while off-peak hours may benefit from reduced enforcement.
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## Seasonal Analysis

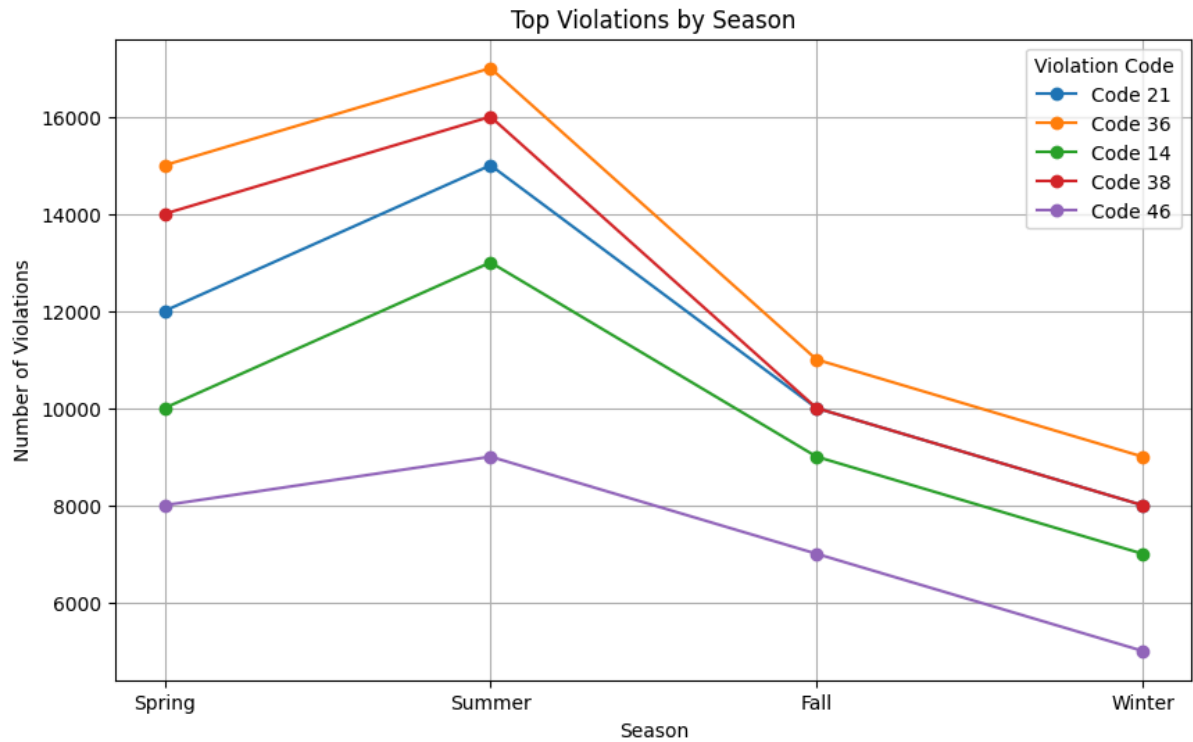
### 1. Ticket Frequency by Season

- **Observation:** Ticket frequency fluctuates across seasons, with notable increases in spring and summer, likely due to higher activity levels and increased tourism.
- **Insight:** Understanding seasonal variations in parking behavior can aid in allocating resources. Summer and spring may require intensified enforcement in high-traffic areas, while winter may see a shift toward managing weather-related parking challenges.



### 2. Top Violations by Season

- **Spring and Summer:** Higher rates of violations such as meter expiration or illegal parking, which may be driven by increased tourist presence and outdoor activity.
- **Fall and Winter:** Possible rise in violations like blocking snow routes or restricted areas due to seasonal regulations.
- **Insight:** Season-specific patterns indicate the need for adaptive parking policies. For instance, winter may benefit from relaxed enforcement in specific zones, while summer may require additional attention to tourist-heavy areas.



## Conclusion

This analysis underscores the complex dynamics of parking enforcement in New York City. Seasonal trends, time-of-day peaks, and vehicle-type patterns all highlight opportunities for more strategic enforcement and tailored policy interventions. This data offers actionable insights for NYC authorities to address parking violations effectively, improve compliance, and ultimately create a more organized urban environment for both residents and visitors.