# Strategic Management of Parking Assets in Japan

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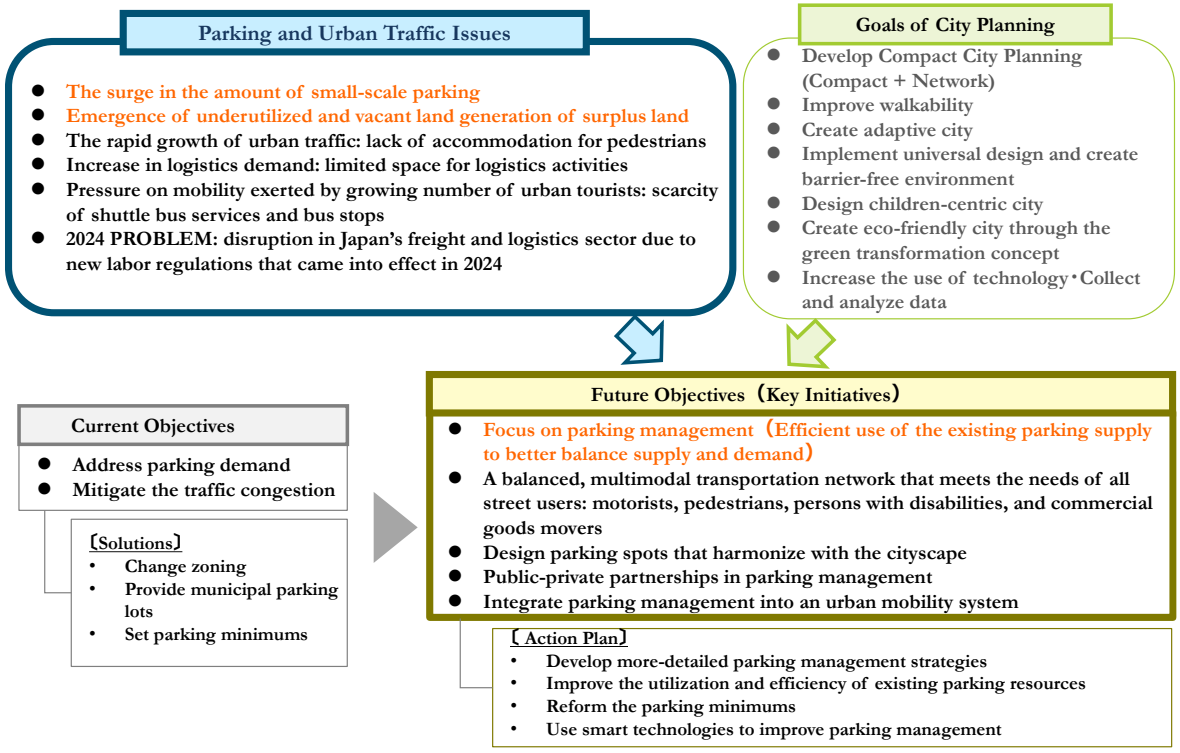
## Abstract

- **Highlights**
  - The estimated number of monthly parking spaces in Japan is 48.7 million. Approximately 14.55 million "residential parking" spaces and approximately 34.15 million "other parking" spaces comprise this total.
  - Rental parking spaces can be defined not only as infrastructure but also as adaptable frameworks that integrate public space, ecological functions, and mixed-use programs. Redesigned as mobility hubs—especially for EVs and MaaS—under strategic management, they can serve multiple roles within urban environments.
- **Introduction**
  - The consequences of an aging population have emerged as significant challenges for urban areas, exacerbating issues related to underutilized land. These lands are expected to be converted into rental parking lots, such as monthly parking lots and coin-operated parking, serving as multi-functional facilities.
- **Research context and Method**
  - Rental parking spaces play a crucial role in both urban planning and property management. Functionally, parking provides an essential infrastructure service by accommodating the needs of vehicles. On the other hand, parking provides stable, recurring, and defensive cash flows for landowners as an asset.
  - Thus, strategic parking management is the key factor in maintaining and improving both the urban environment and urban properties.
  - Existing studies have primarily focused on hourly off-street parking services, such as coin-operated parking, while monthly parking spaces have been largely overlooked.
  - This gap limits to comprehend the current factors driving parking demand, leading to an insufficient theoretical foundation for parking practice. To address this issue, we collected nationwide parking records to extract parking demand features from the original data.
- **Conclusion**
  - Since operating parking spaces as transportation hubs by installing EV chargers and MaaS systems is a highly challenging task for private parking owners, community or corporate engagement is expected. Community and corporate involvement ensure more comprehensive and sophisticated planning. To enhance comprehensive parking management plans through community or corporate engagement and refined analysis, further investigation of parking statistics is needed.

## 1. Introduction: Background

Japanese cities experience uneven changes in population relocation dynamics; increasingly, populations are concentrated in urban areas and their surroundings, while rural areas face depopulation. Serious demographic imbalances have led to significant amounts of underutilized land, vacant land, and abandoned structures. Recently, due to the low barriers to entry—such as relatively small initial costs for landowners and, in principle, no requirement for notifications under laws and regulations—rental parking is a popular method for repurposing those vacant or seldom-used properties. Community or corporate engagement is expected to be involved in managing these converted parking spaces, which can provide benefits to both the community and individuals. In Japan, rental parking lots have played an essential role as social infrastructure, supporting smooth mobility for residents, as well as commercial activities and logistics. They are crucial for maintaining urban functions. Considering this situation, for owners, parking spaces can be a promising asset class, if investments are made based on supply and demand dynamics. As urban mobility undergoes profound transformations, such as the rise of electric vehicles (EVs) and mobility as a service (MaaS)[1], the role of parking infrastructure is being redefined. Japan's Ministry of Land, Infrastructure, Transport and Tourism (MLIT) is reimagining parking spaces as hubs that integrate public and mixed-use functions and has established strategies for their management (Figure 1).

**Figure 1: Recent Parking and Urban Traffic Issues･Future Policy and Strategic Plan**




Sources: Ministry of Land, Infrastructure, Transport and Tourism; Value Management Institute, Inc.

[1] Mobility as a service (MaaS) is a service that combines various mobility services into a single app-based digital platform, making it easier for users to plan, book, and make payments for their trips.

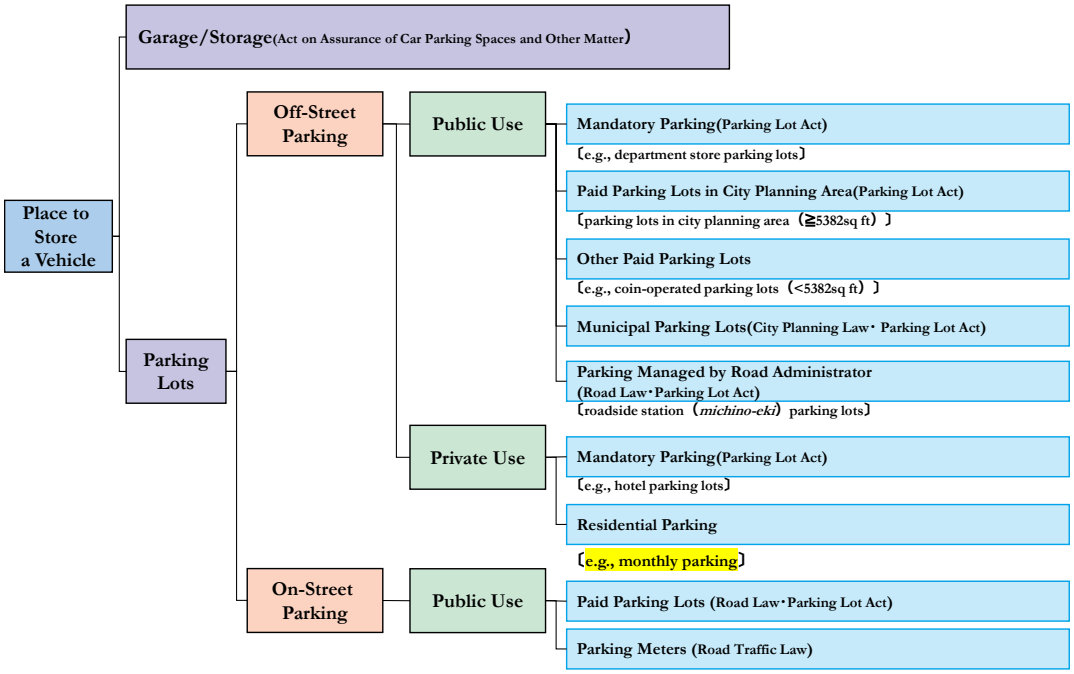
Rental parking spaces are broadly classified into two types: hourly parking and monthly parking[2]. Most previous research has focused on hourly off-street parking services, such as coin-operated parking, while monthly parking has received comparatively less attention.

As parking has emerged as one of the key aspects of mobility infrastructure that affects city planning, this research gap could hinder efficient parking management and the optimization of urban traffic networks. Addressing this gap necessitates the collection of distributed data on monthly parking spaces[3].

## 2. Methodology: Top-Down Procedural Steps for the Estimation

Monthly parking spaces are not subject to notification requirements under the Parking Lot Act and related laws, making it difficult to quantify their capacity from statistical data (Figure 2)[4]. Therefore, assuming that the total number of passenger vehicles[5] and the total number of parking spaces in the market are approximately equal, we examined a top–down approach to estimate the number of monthly parking spaces by subtracting the number of non-monthly parking spaces from the total number of passenger vehicles (Figure 3).

**Figure 2: Classification of Parking Space**




Sources: Japan Parking Association, Public Interest Incorporated Parking Garage Association, Multi-story Parking Garage Industry Association, General Incorporated Association, Japan Parking Business Association, Value Management Institute, Inc.

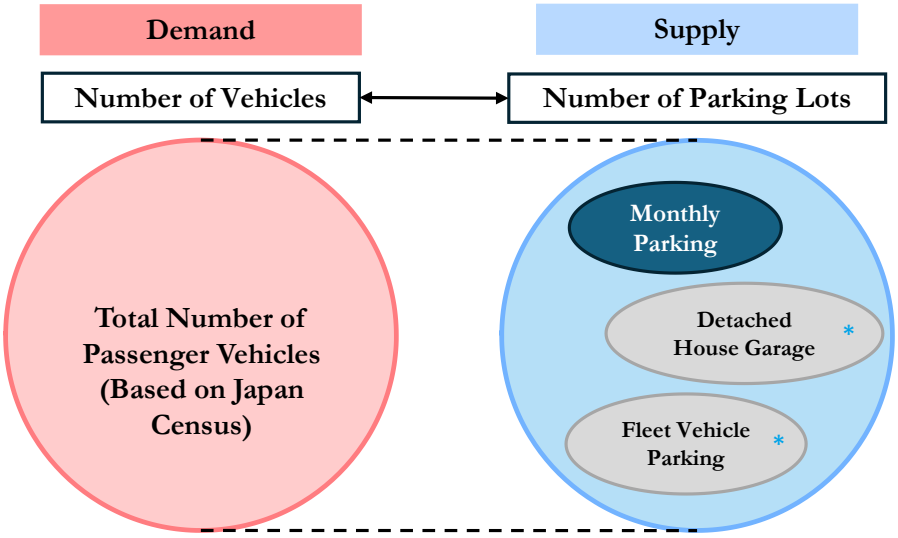
[2] The term "monthly parking" in this study means any place maintained for renting outdoor parking spaces for cars on a month-to-month basis, except on a street, alley, or other public place.

[3] The term "parking space" in this study means a parking area that complies with the dimensional standards (Length 19' x Width 8.2') as determined by Japan's Ministry of Land, Infrastructure, Transport and Tourism.

[4] The number of parking spaces can only be ascertained for certain types of parking facilities, such as those that are subject to notification requirements under the Parking Lot Act, Road Act, and City Planning Act, as well as obligatory parking facilities, on-street parking, and city planning parking facilities.

[5] The total number of passenger vehicles includes fleet vehicles that utilize the parking spaces.

**Figure 3: Methodology**




- Assuming that supply and demand are balanced in the market, the total number of vehicles is assumed to approximate the number of parking spaces.
- To ascertain the number of monthly parking spaces, subtract the non-monthly spaces from the total. (non-monthly parking examples)

Source: Value Management Institute, Inc.

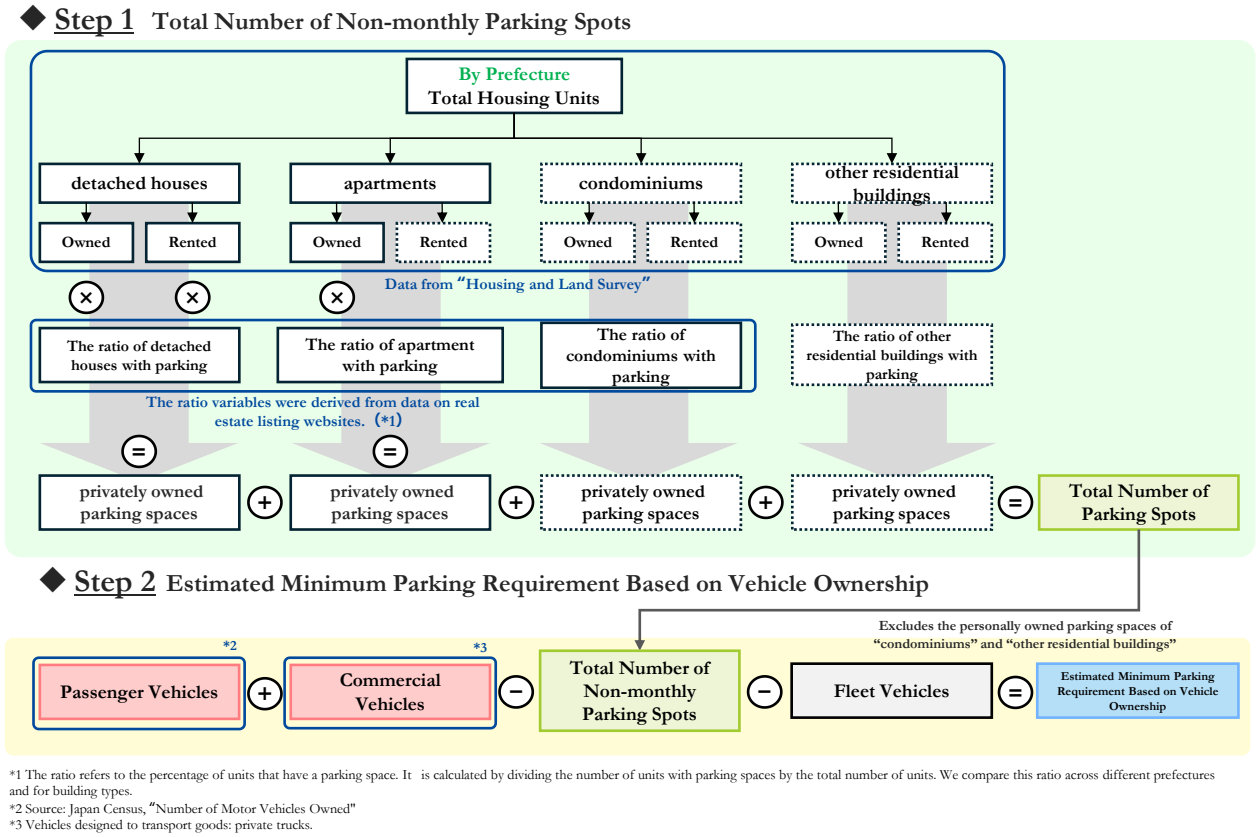
## 3. Data Collection and Results: Estimating Market Potential

Given the absence of nationwide empirical data, this paper extrapolates the number of non-monthly parking spots from prefecture-level data to estimate the national total.

To analyze the number of monthly parking lots and off-street parking demand, this study employs a two-step research framework as shown in Figure 4, including two parts: (Step 1) Estimate the number of non-monthly parking spaces, primarily those privately owned and attached to residences. (Step 2) Estimate the demand for monthly parking[6] by subtracting the result from Step 1 and the number of fleet vehicles from the total number of passenger vehicles.

[6] As shown in Figure 3, this study is based on the assumption that the total number of passenger vehicles and the total number of parking spaces are approximately equal. We estimated only the number of vehicles using "Monthly Parking," which refers to designated spaces registered as parking facilities. "Privately owned parking spaces," "detached house garages," and "fleet vehicle parking" were excluded, as these are not typically registered as parking lots.

**Figure 4: Data Collection**




*1 The ratio refers to the percentage of units that have a parking space. It is calculated by dividing the number of units with parking spaces by the total number of units. We compare this ratio across different prefectures and for building types.
*2 Source: Japan Census, "Number of Motor Vehicles Owned"
*3 Vehicles designed to transport goods: private trucks.

Source: Value Management Institute, Inc.

Step 1 was accomplished by multiplying the number of housing units by an estimated parking provision rate, which was derived from publicly available data on real estate listing websites. The data on housing units, categorized by property type (e.g., detached houses, apartments, condominius, and others) and ownership status (owned or rented), was obtained from the "Housing and Land Survey" conducted by the Ministry of Land, Infrastructure, Transport and Tourism (MLIT). For this calculation, we assumed that privately owned parking spaces consist of those attached to detached houses (both owned and rented) and owned apartments, reflecting typical usage patterns. Spaces associated with apartments and other residential buildings were excluded, as they are often operated as monthly parking.

In Step 2, the total demand for monthly parking was estimated. This was calculated by subtracting two key figures from the total number of passenger vehicles and fleet vehicles[7]: (1) the number of passenger vehicle parking spaces, as determined in Step 1 and (2) the number of fleet vehicles. Fleet vehicles were excluded, as they are typically housed in dedicated lots and do not utilize the monthly parking market. The vehicle ownership data was obtained from MLIT's "Motor Vehicle Ownership Statistics".

Through this analysis, the total number of monthly parking spaces for vehicles nationwide

[7] Data was collected targeting vehicles that are unlikely to use monthly parking lots, based on publicly available information.

was estimated to be approximately 48.7 million. A breakdown by region shows that the Kanto region accounts for the largest share, with approximately 12.4 million spaces (25.5% of the national total); followed by the Chubu region, with approximately 10.56 million (21.7%); and the Kinki region, with approximately 7.22 million (14.8%) (Figures 5 and 6).

**Figure 5: Monthly Parking Spaces: Distribution, by Region**

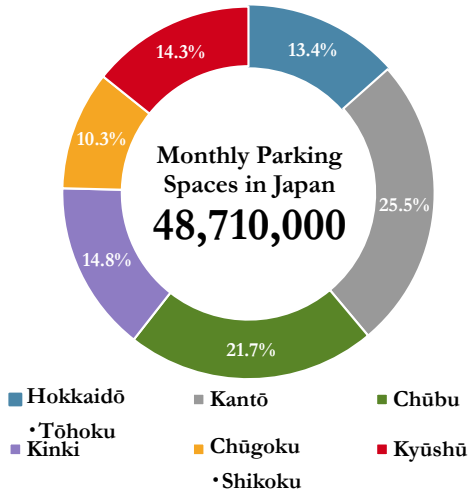
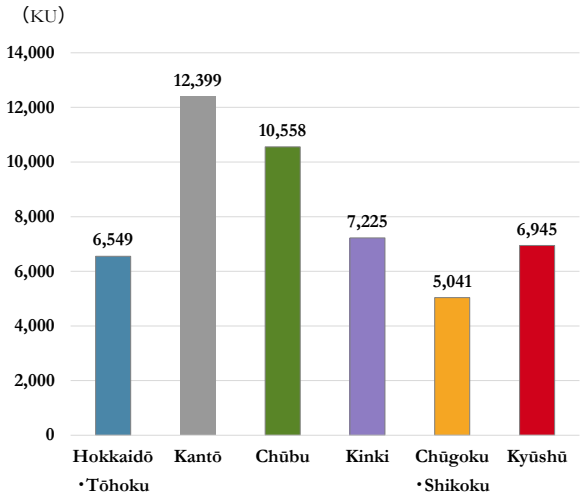



**Figure 6: Monthly Parking Spaces: Counts, by Region**



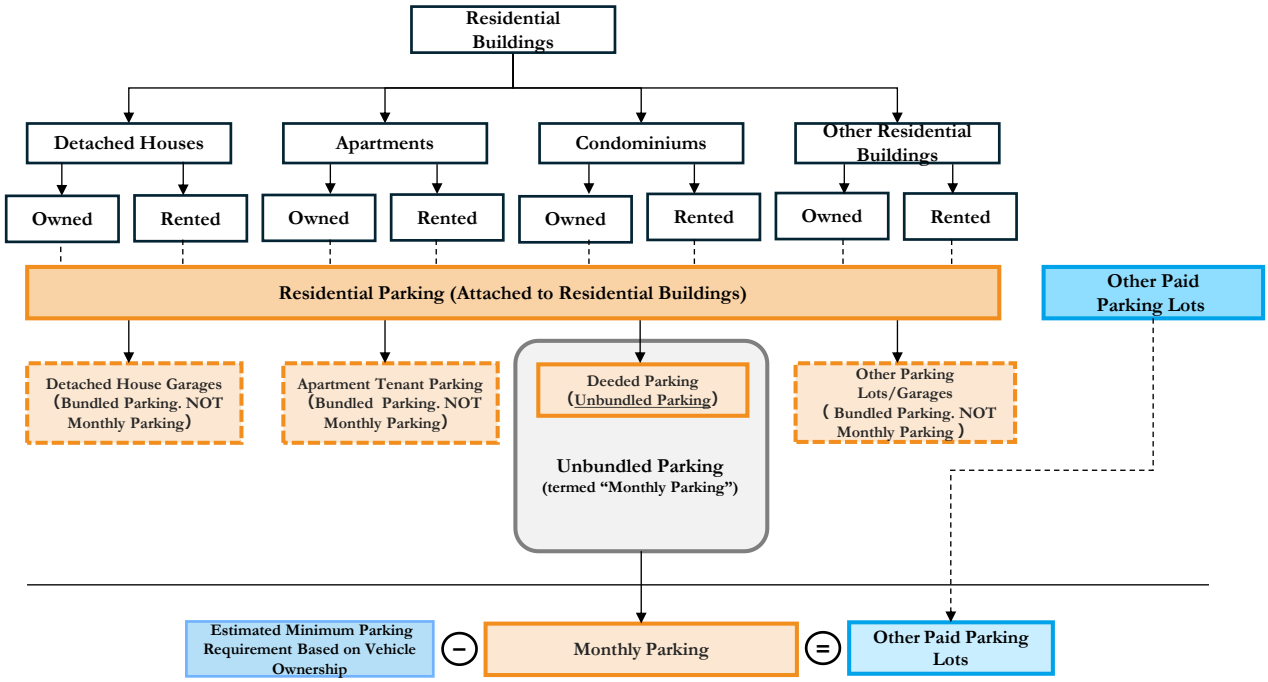

Source: Value Management Institute, Inc.

It should be noted that monthly parking spaces can be divided into "those attached to buildings" and "standalone lots". For the purpose of the "strategic parking management", it is valuable to ascertain the approximate quantity of each. Given that our study's estimation approach focuses on parking attached to residences (as detailed in Figure 4), we conducted a further analysis to categorize the monthly parking market into "residential-attached parking"[8] and "other parking"[9] (Figure 7).

[8] In this study, we defined parking spaces attached to apartment buildings as "rental parking" and selected them from the broader category of residential parking as our survey sample.

[9] We estimated the number of residential-attached parking spaces using the same approach as in Figure 4: by applying a parking provision rate approximated from data on real estate listing websites. We then calculated the number of "other parking" spaces by subtracting the residential-attached parking count from the total required monthly parking spaces derived from the estimation flow in Figure 4.

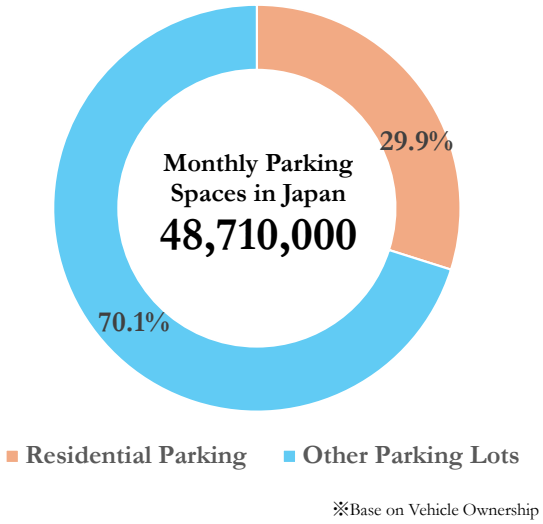
## Figure 7: Categorization of Residential Parking Lots




Source: Value Management Institute, Inc.

The analysis estimates that residential-attached parking accounts for approximately 14.55 million spaces (29.9% of the total), while other parking comprises approximately 34.15 million spaces (70.1% of the total) (Figure 8).

## Figure 8: Monthly Parking Spaces Residential-Attached vs. Other




Source: Value Management Institute, Inc.

## 4. Conclusion: Discussion and Future Work

This study has attempted to estimate the total number of monthly parking spaces in Japan—a sector for which no official statistics exist—by first outlining the market environment and complex challenges confronting parking infrastructure amidst long-term societal trends such as a declining birthrate, an aging population, and urban population concentration.

Our investigation highlights the structural vulnerability of the monthly parking spaces. The absence of specific governing regulations allows for relatively easy market entry; however, it also exposes this vulnerability: a sudden imbalance in supply and demand can lead to low occupancy rates, quickly turning these properties into underutilized assets. The analysis reveals that this market constitutes a substantial stock of urban resources, suggesting that society bears a significant risk if their operation and administration are mishandled.

From another perspective, monthly parking is at a historical turning point, not only as a physical real estate asset but also as a functional component of mobility services. With the proliferation of electric vehicles (EVs), parking spaces are expected to evolve from mere storage locations into community energy supply hubs. Furthermore, advances in autonomous driving technology as well as mobility as a service (MaaS) present new possibilities: large-scale lots could serve as facilities for automated valet parking (AVP)[10], while smaller, scattered lots could be networked into micro-hubs for local mobility. This positions monthly parking as critical social infrastructure, closely intertwined with the future of Japan's core automotive industry.

Implementing such advanced operations and strategic asset management is challenging for individual owners, who often lack the necessary expertise. Therefore, centralized and advanced management by professional operators is becoming crucial. By consolidating numerous parking lots under integrated management, specialized businesses can enable data-driven, flexible, and strategic operations. This includes optimizing occupancy rates, dynamically setting rental fees based on demand, implementing hybrid models with hourly parking, and dedicating spaces for specific uses (e.g., EVs, large vehicles, or corporate fleets). From a city planning perspective, this approach is highly effective for enhancing the quality of service and optimizing the overall parking function of a region.

For achieving more sophisticated parking management, new technology categorized as property technology ("prop tech"), particularly recent advancements in software as a service (SaaS)[11], serves as a powerful catalyst. These technologies enable a shift away from traditional, personnel-dependent operations toward a model that enhances market transparency and facilitates efficient, data-driven business decisions. The potential benefits extend beyond increasing individual asset value, ultimately contributing to the sustainable development of entire cities.

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[10] Automated valet parking (AVP) is a service that enables a vehicle to perform the entire parking process without human intervention. In a typical application at a large facility, the user simply exits the vehicle at an entrance, and the car then drives, parks, and returns on its own.

[11] Software as a service (SaaS) is a form of cloud computing that delivers software applications over the internet. Users can access these applications on a subscription basis without the need to install or maintain them on their own devices.

Finally, it is important to acknowledge that this study is an initial attempt, and its estimation logic has several areas for refinement. These include improving the accuracy of the "parking provision rate" and the "number of fleet vehicles" used in our model, as well as estimating the extent to which the current supply of parking spaces exceeds demand[12]. Should more accurate public statistics on the state of parking management become available, more precise analyses—such as segmenting estimates by region, scale, or other attributes—will be possible. It is our hope that this research will serve as a catalyst for a broader societal discussion on its necessity.

[12] A further avenue of research could be to estimate the proportion of monthly-leased parking that serves commercial purposes, such as for customers, rather than functioning as a registered long-term storage location for a vehicle.