



# The Fundamentals of Yield Management & Dynamic Pricing for Parking

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smarking

## What's Yield Management?

Yield management is a variable pricing strategy based on the principle of maximizing the revenue from a fixed, limited resource.

It finds the optimal balance of supply and demand, where the price perfectly matches the demand. This is the sweet spot where your rates will “yield” the highest number of demand at the highest possible price.

If you order an Uber at three different times of the day - you'll get three different rates, depending on the number of cars available (supply) and the amount of people who requested a ride (demand). That is a yield management pricing strategy.

## Yield Management and Parking

Yield management pricing strategies work best in when the following conditions are met:

1. Inventory is perishable
2. Product is sold in advance
3. Demand fluctuates

Industries where yield management strategies work well include: rideshare, hotels, airline, and parking. All have a fixed amount of inventory that needs to be priced based on the demand and the remaining amount of inventory available.

If a can of soda is on the shelf one day and sold the next day - there is no loss. Whereas, a parking spot is open all day - that revenue is lost forever, making yield management strategies vital in parking.



## Traditional Pricing Strategies

For decades, the pricing of parking inventory has been largely based on: competition, location, and historical performance. It does not consider the demand of the market nor does it price inventory appropriately given the remaining daily supply.

Typically, prices are updated yearly, seasonally, or at best - monthly. It is a slow and time-consuming process that is inefficient and leaves thousands of dollars on the table monthly.

In today's world, since this process can be automated, **companies that rely on traditional pricing methods will soon find themselves edged out by the competition.**

## The Mobile Movement in Parking

It's estimated that about 30% of traffic is caused by drivers searching for parking. To reduce the congestion and stress that comes with looking for an available spot, the demand for parking reservation apps is growing, and now more than ever, commuters are reserving their space before they leave their home.

Overall the U.S. is behind the curve in terms of adopting mobile reservations, currently under 20%. **In China, over 90% of parking transactions are processed online.** Currently, the US parking market is a \$131 billion dollar industry and is only growing. It's estimated that within the next **10 years, more than half of all US parking transactions will be completed digitally.**

The direction of the parking industry is clear - it's critical to expand your parking operations to online channels. Your competitors will continue to improve their online presence and shift parkers away from your facilities. Behaviors are changing - commuters are searching and securing spots before they go.



## Do Online Sales Channels Cannibalize Transient Traffic?

One of the major hesitations operators have with online reservations apps is the perception that the online traffic is taking away, or converting, their transient visitors.

However, after a year and hundreds of thousands of transactions, the data consistently shows a neutral impact on transient demand. Most drivers have their preferred method of parking - either drive-up or pre-paid reservation.

Visitors that prefer to just drive-up continue to do so, and those who use reservation apps, consistently use the app when visiting new or repeated locations. It's very rarely the case that drivers check and compare both options. By opening up spaces on an online sales channel, you're simply allowing a new segment of visitors to find your garage.

[A recent doctoral study by Todd Tucker](#), SVP of Market Development at Arrive, showed that online sales channels proved to create additional demand parking. The study was conducted at 30 parking locations, over the course of 180 days, totaling 5,400 total observations.

### Results Of The Study Indicated That Online Sales Channels:

- Contribute a significant amount of revenue contributor to brick-and-mortar facilities
- Improve revenue per space
- Attracted new commuters
- Do not cannibalize the demand of transient parkers

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“The results show resounding evidence that online channels grew the pie, it didn't just move money from one channel to the other”

**Todd Tucker, SVP of Market Development, Arrive**

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## Implementing Yield Management in Your Parking Operations

To effectively implement a yield management strategy, you need to have an idea of how changing the pricing will affect the demand for your product.

- High demand = higher price to optimize the revenue opportunity
- Low demand = lower price to encourage and increase demand

### But by how much?

How high can the rate increase **before the cost makes commuters turn away** and returns diminish? To determine this, it's important to monitor the change in number of transactions after a rate change has been implemented. You can take the percentage change and divide it by the percentage change in price.

The challenge with this approach is that it's virtually impossible for a human to do this fast enough to keep up with the rapidly changing demands of the market.

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“Even if we hired a full-time person to set rates, we couldn't post hundreds of rates multiple times a day or analyze the results the way Smarking's dynamic pricing does.”

**Rick West, CEO of Millennium Parking**

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Now that demand data has become available, **parking operators can enable and automated a true demand-based pricing approach.**

# Smarking's Automated Yield Management

Smarking's dynamic pricing solution uses parking data to predict demand and **assign the optimal price to maximize sales and profits.**

The more data that's available, the faster the algorithm learns the unique demand fluctuation of the location. Factors that impact demand include: day of the week, time of day, location, holidays, and weather conditions.

**AYM responds to the parking demand by updating the rate multiple times a day and assigning the optimal price (400+ rate options) for that unique location. Now, rates are updated in real-time, instead of quarterly.**

The program is “set & forget”. During implementation, parking managers can set the parameters of the location such: operating hours, maximum and minimum price, or event days. After that, operators can let the program run and learn from transaction data. The program can then automatically update parking rates throughout the day.

Yield management and demand-based pricing helps to close the gap between competition-based pricing and the true market value of the location. Parking priced under the market value is bad for everyone involved, especially when the demand exceeds the supply and causes major congestion.





## The Success of Dynamic Pricing in Parking

Leading parking operators have used Smarking's dynamic pricing almost two years now. Smarking's AYM (automated yield management) system is currently available exclusively through ParkWhiz.

Together, we've achieved significant revenue uplifts and improved inventory allocation for clients. The results so far prove that it's here to stay and it's where the market is going.

After deploying Automatic Yield Management (AYM) for over a year in 10+ markets, here are the results:

- An average revenue uplift of \$20,000 per year. Since the AYM algorithm learns from transaction data, locations with a high volume of traffic have seen a revenue uplift as high as 250%.
- The increase of annual net income has been up to hundreds of thousands of dollars, raising the asset value by millions.
- Total number of transactions increased by 137%, i.e. 137% more cars parked in the same assets during last year, a huge increase in asset utilization.
- 50% increase of occupancy during low demand times - evenings and weekends for commercial sites.

### Partnership with ParkWhiz

AYM is currently available exclusively through ParkWhiz. Together, we've achieved an average revenue uplift of 163% and improved inventory allocation for clients.



### It created new demand:

- 257% increase of multi-day (1+ days) transactions for urban locations with online sales channels and AYM. Previously, it was very rare for non-hotel sites to capture these types of transactions.
- 210.5% increase of 4-6 hour transactions across board for urban locations. Before, most of the transactions were between 1-2 hours or a full day, now more new demand has been created and captured.

## How Industry Leaders are Benefitting from Dynamic Pricing

“One of our Chicago assets deployed Smarking AYM in March 2019, and we have observed continuously growing revenue increases since then for up to 136% (YOY), annualizing a very meaningful NOI and asset valuation uplift. Our partnership with Smarking helps us deliver competitive investment performance through economic and property market cycles, which is a driving principle here at LaSalle.”

**Peter Owusu-Opoku, Asset Manager, LaSalle Investment Management**

“We’ve used Smarking’s dynamic pricing (AYM) and Business Intelligence (BI) solution at our Chicago locations for years, it has played a key role in driving new demand to our site. Within the last 3 months, we’ve driven 82% more transactions than the national average. The BI solution has provided us with real-time, granular, visibility into our garages’ performance, making it easier for our team to double-down on what’s working well and uncover opportunities.” **Matt Andrews, Chicago Branch Manager, ABM**

“Millennium is one of the largest garages in the world, serving downtown Chicago. Even if we hired a full-time person just to set fees, we couldn’t post hundreds of rates multiple times a day, let alone develop the number of products and analyze the results Smarking’s algorithm does.”

**Rick West, CEO, Millenium Parking**

“As a parking operator, we are constantly looking for ways to differentiate our services to our customers in order to provide greater value. Smarking, has long provided us with that edge, and AYM takes it to a whole new level of revenue maximization.” **Nick Litton, COO, VPNE Parking Solutions**

[Chat with a member of our team](#) to learn more about yield management strategies and dynamic pricing pricing locations for your parking locations. You can pilot dynamic pricing risk-free.

## About Smarking

Headquartered in San Francisco, CA, Smarking specializes in working with transaction-level parking data. The leading provider of [business intelligence](#) and [yield management solutions](#), powering over 2,000 locations in North America. By centralizing parking data from meters, mobile payments, access control equipment, etc., our platform provides a holistic view of your parking portfolio.