



*Robotic Parking Systems, Inc.*

— ALWAYS AHEAD —

**THE EVOLUTION AND  
REVOLUTION OF PARKING**



## HISTORICAL PARKING METHODS: OPEN LOT AND CONCRETE

Parking has come a long way from the vast open lots and concrete garages that have been the norm for over a century.

Today, modern parking systems are reshaping the landscape, offering solutions that go beyond the limitations of the traditional methods seen here.



## OPEN LOTS CONCRETE GARAGES

Traditional parking faces safety and efficiency challenges.

And, with the cost of land being higher than ever, open lots and concrete garages are extremely expensive in urban areas.

## CHALLENGES & LIMITATIONS



- High land requirement
- Security concerns (violent crime, theft, vandalism)
- Accidents due to crowded spaces
- Time-consuming walking and searching for car



## CONCRETE GARAGES: ADDITIONAL CHALLENGES

May have restrictions on height or # of floors.

Limited to 6 levels because average driver does not tolerate more.

Negative environmental impact from toxic emissions when in operation.

Negative environmental impact in production of concrete when building and again when disposing of concrete structure when it's eventually torn down. (embedded carbon)



## SEMI AUTOMATED AND FULLY AUTOMATED PARKING

The evolution of parking has brought about innovative solutions to address the shortcomings of concrete garages and parking lots.

Let's explore three parking applications that address these issues in different ways.



- Stacker Parking System (1D)



- Mechanical Parking System (2D)



- Fully Automated Parking (3D)



## THE STACKER SYSTEM

- Vertical transport—one dimension, manually operated.
- Limited capacity—a good solution when only a few additional spaces are needed. Stackers can be placed next to one another to accommodate more cars.

The stacker parking system is a modern approach that involves stacking cars vertically to maximize space. It can increase parking capacity by 2 to 4 times. Used currently in many large metropolises.

Although an improvement over traditional methods, it requires manual operation and lacks the advanced features found in fully automated systems.



## THE MECHANICAL PARKING SYSTEM

- Horizontal and vertical transport—2 dimensional
- Limited capacity but scalable



Mechanical parking systems offer a two-dimensional solution by using lifting and sliding devices to move vehicles horizontally and vertically. Typically the height is limited to 6 levels above grade.

While more advanced than stacker systems, mechanical parking systems are still limited in capacity and peak traffic capabilities.



## FULLY AUTOMATED PARKING SYSTEM

The pinnacle of modern parking systems is the fully automated parking system.

These systems, like those developed by Robotic Parking System Inc., leverage robotics, automation, and sophisticated & reliable management software to provide a three-dimensional, high-density, and efficient parking solution.



## ADVANTAGES OF AUTOMATED PARKING

Fully automated parking systems offer a plethora of benefits, including a significant reduction in the land area needed, increased efficiency, and the ability to repurpose space for other uses like offices, residential units, and retail space.

The before-and-after photos of retooled parking spaces speak volumes about the transformative impact of these systems

**DOUBLES SQUARE FOOTAGE FOR OTHER USES.**



**CHANGING THE DYNAMICS OF LAND USE**



## USER EXPERIENCE

Drive into terminal and park on pallet.



Car transported on pallet by robots.



Drive your car into a terminal, turn off the engine, take your keys, and let the system take care of the rest. Fully automated parking systems provide a seamless and luxurious parking experience, ensuring both safety and accessibility.



## SAFETY MEASURES

### Sensors for Car Boundaries



### Pallet Protection



Sensors and guidance systems protect vehicles from damage. Motion detection sensors ensure the well-being of passengers including children or animals before moving the vehicle for parking. Vehicles are additionally protected through the use of parking pallets—no machinery ever touches the car.



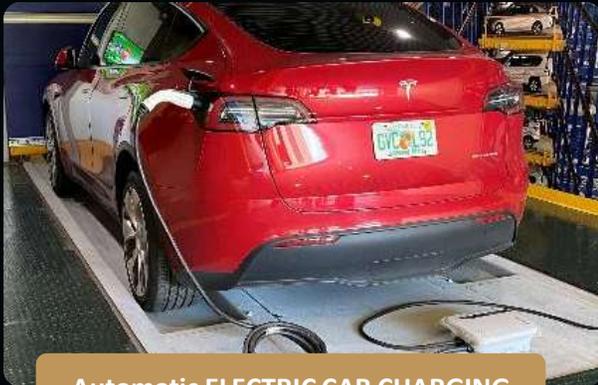
## INDUSTRY LEADER

Award winning Robotic Parking Systems Inc. is a leader in the automated parking industry.

Established in 1994, Robotic Parking Systems built the first fully automated parking garages in the U.S. and the Middle East and holds Guinness World Records for constructing the largest automated parking garages in Kuwait and Dubai.

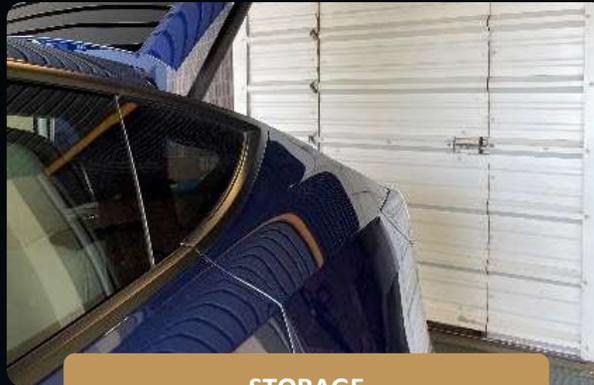


## ADDITIONAL FEATURES



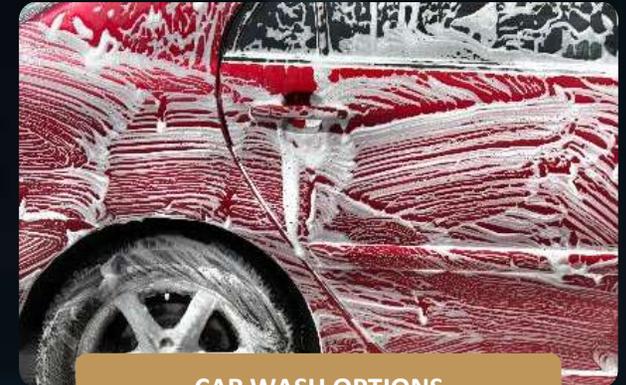
Automatic ELECTRIC CAR CHARGING

Fully enabled for emerging technologies



STORAGE

135 square foot containers provide a storage experience like never before. The storage container comes to the user to load and unload—eliminating long walks while carrying heavy loads.



CAR WASH OPTIONS

Beyond parking, fully automated garages can include features such as electric car charging stations, car wash systems, container storage, and acceptance of autonomous (driverless) vehicles.

These additional features make a parking facility more versatile and accommodating.



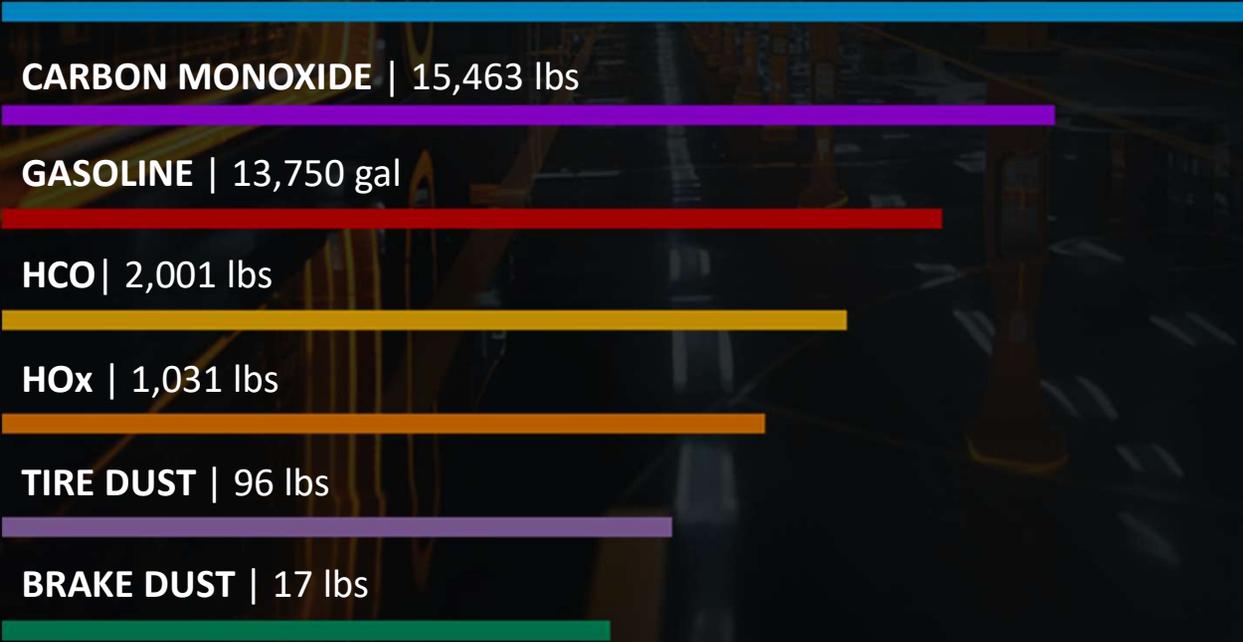
## REDUCING TRAFFIC AND ENVIRONMENTAL IMPACT

Traditional parking methods contribute to traffic congestions evidenced by studies, wasting time and fuel. Traffic congestion costs up to 4% of GDP according to a report by IBM.

Modern automated systems, requiring up to 50% less space, not only optimize urban space but also reduce pollution and traffic congestion caused by drivers searching for parking.

### TOXIC EMISSIONS ELIMINATION FOR ONE 1,000 SPACE GARAGE PER YEAR:

**CARBON DIOXIDE** | 275,422 lbs



**CARBON MONOXIDE** | 15,463 lbs

**GASOLINE** | 13,750 gal

**HCO** | 2,001 lbs

**HOx** | 1,031 lbs

**TIRE DUST** | 96 lbs

**BRAKE DUST** | 17 lbs

### RESULTING IN:

- Drastic carbon footprint reduction.
- Gain up to 17 LEED points.
- Sustainable building –reusable.
- Clean environment.
- Parkers no longer inhale these fumes and particles.



## LEARN MORE ABOUT AUTOMATED PARKING

The transition from traditional to modern parking systems represents a paradigm shift in urban planning. The efficiency, safety, and environmental benefits of automated parking systems make them ideal for future parking.

These systems enhance the users' parking experience while increasing ROI for developers.



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