

The **PARKPLUS** Fully Automated **Rack & Rail** Parking System consists of fixed-rail robotic shuttle units using proprietary handling mechanisms, traffic management software, limit switches and lasers to manage the automated storage and retrieval of vehicles with or without trays.

The **PARKPLUS Rack & Rail** Parking System is designed to be installed in an enclosed parking vault on an approved foundation system with steel or slab on metal deck racking structure. In addition to the parking superstructure and storage area, the **Rack & Rail** system includes 6 main components:

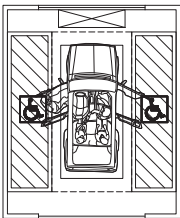
- ❖ **1 Loading Zone:** Entry/exit area where users leave retrieve vehicles.
- ❖ **2 Control System:** Manages automated storage and retrieval of vehicles.
- ❖ **3 Vertical Reciprocating Conveyor (VRC):** Car lift to transport vehicle between floors/levels.
- ❖ **4 Shuttle:** Horizontal transfer device.
- ❖ **5 Robotic Dolly:** Vehicle transfer device fixed to Shuttle to retrieve and deposit vehicles. Proprietary handling mechanisms include comb-exchange, pallet and pincer.
- ❖ **6 Stall:** Parking space in storage vault.

System can be installed in multiple regular configurations on multiple levels above, on and below grade to maximize parking efficiencies. Basic system design and components are determined by peak demand throughout requirements of the parking system.

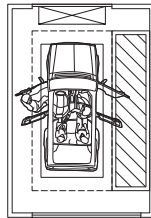
ADA requirements can be accommodated. Each city may have minimum height requirements and different clear requirements for code required parking. Owner/Architect should review with local planning and building departments. **MEP coordination with project team must meet code requirements and satisfy equipment clearances.**

## Components

### ❖ 1 Loading Zone

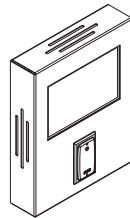


ADA Van Accessible Loading Zone



Standard Loading Zone

### ❖ 2 Control System

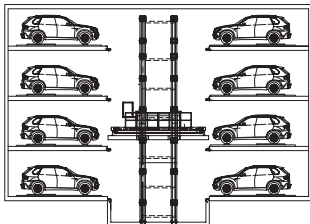


PARKPLUS Kiosk

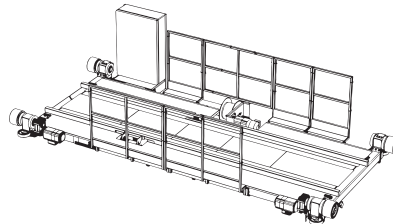


PARKPLUS Mobile App

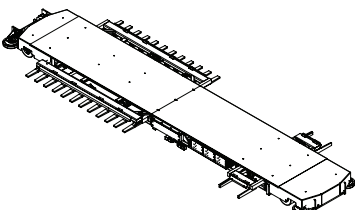
### ❖ 3 Vertical Reciprocating Conveyor (VRC)



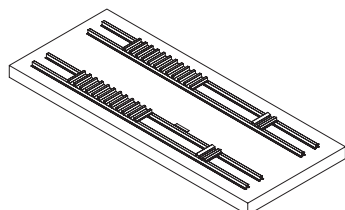
### ❖ 4 Shuttle



### ❖ 5 Robotic Dolly



### ❖ 6 Stall



## Suitable For

- Standard passenger vehicles
- SUVs
- Vans
- *Custom solutions available*

## Specifications

<b>Load per Vehicle:</b>	6,000 lbs. max.
<b>Length of Stall:</b>	17' to 20'
<b>Width of Stall:</b>	7'-4" min.
<b>Height Clearance:</b>	6'-8" to 8'-2"
<b>Control:</b>	<ul style="list-style-type: none"> <li>• Touchscreen Kiosk</li> <li>• Mobile App (optional)</li> <li>• Key Fob (optional)</li> <li>• Remote Control (optional)</li> </ul>

## Power & Electrical

208 Volt, 3 Phase Power

Approx. 300-1,000 Amps depending on system size and components.

Contact **PARKPLUS** for project-specific requirements.

◇ IN-HOUSE DESIGN, MANUFACTURING, INSTALLATION & SERVICE

◇ INTELLIGENT TRAFFIC MANAGEMENT SOFTWARE

◇ GRID SYSTEM FOR REGULAR CONFIGURATION

◇ 24/7 VIDEO MONITORING & REMOTE ACCESS

## Operation

Vehicle is always parked in Loading Zone. Depending on the system, this may be on a parking tray. **Rack & Rail** Dolly and Shuttle transfer vehicle to and from storage area, or may transfer it to a VRC for storage on another level. User will always park & retrieve car from Loading Zone/s.

### ENTRY

User parks and exits vehicle in Loading Zone

## Applications

**Rack & Rail** System can be installed in self-park applications:

- Multi-Family Residential Buildings
- Low & High Rise Buildings
- Indoor Installations
- Commercial Buildings

### OPERATION

System is activated by Touchscreen Kiosk/Mobile App

### STORAGE

Vehicle is automatically parked by **Rack & Rail** system

### RETRIEVAL

Vehicle is presented to Loading Zone when requested

## ADDITIONAL INFORMATION

### Safety

System may be equipped with Visual and Audible alarms and Emergency Stops. Sensors for vehicle size and positioning ensure system will not initiate unless physical parameters are met. Motion detectors and lasers detect obstructions within system and stop operation in emergency. System requires operator reset to check safety and obstruction removal. Sensor signals, door signals and PLC program protection for sequence operation ensure function as programmed. System includes manual operation methods for system override. System is equipped with limit switches which limit motions to correct system levels and positions. System can be equipped with a secondary safety gate system. System is equipped with 24/7 Video Monitoring.

### Fire Protection

In most metropolitan areas, car stacker systems are reviewed as similar to high piled storage and non-building structures. Fire rating of structural components is not required. Sprinklers may be required per following section. Each city may have different fire department guidelines.

### Fire Sprinklers

1. Installation shall be in a sprinklered garage. In tandem array, additional sprinkler requirements may apply. 2. Sprinkler Plans filed and approved by local municipality. 3. Sprinkler system designed as required by NFPA 13 and local building codes. 4. Clear building height within parking area must accommodate height of equipment plus additional requirements for adequate coverage of fire sprinklers.

### Temperature

This device is designed to operate between 20° and 120° F.

### Humidity

This system is designed to operate in humidity no higher than 75%.

### Loading

Structural design and loading is provided on a project by project basis and is dependant on seismic zones, soil conditions and other environmental conditions.

### Warranty & Service

12-month Standard Manufacturer's Warranty.  
Extended Warranty and Service Maintenance Agreement is available at time of purchase.

### Approvals

- OTCR Compliant, City of New York
- ISO Compliant
- California Seismic Code Compliant
- Miami Dade County Compliant
- Approved in multiple U.S. Cities

# TURNKEY PROJECT SOLUTIONS

**PARKPLUS** is the leading provider of high density parking systems, with the most completed projects, and the most extensive product range, in the United States. **PARKPLUS** was established over 50 years ago, our experience is based on a multitude of projects spanning over half a century.

To ensure the highest quality in our parking solutions, **PARKPLUS** provides complete service across every project. We employ professional full-time staff dedicated to **Design & Engineering**, **Assembly & Installations**, **Procurement & Manufacturing**, and **Service & Support**.

## HIGH DENSITY PARKING SYSTEMS



### Automated Systems

Advanced technologies for robotic parking solutions

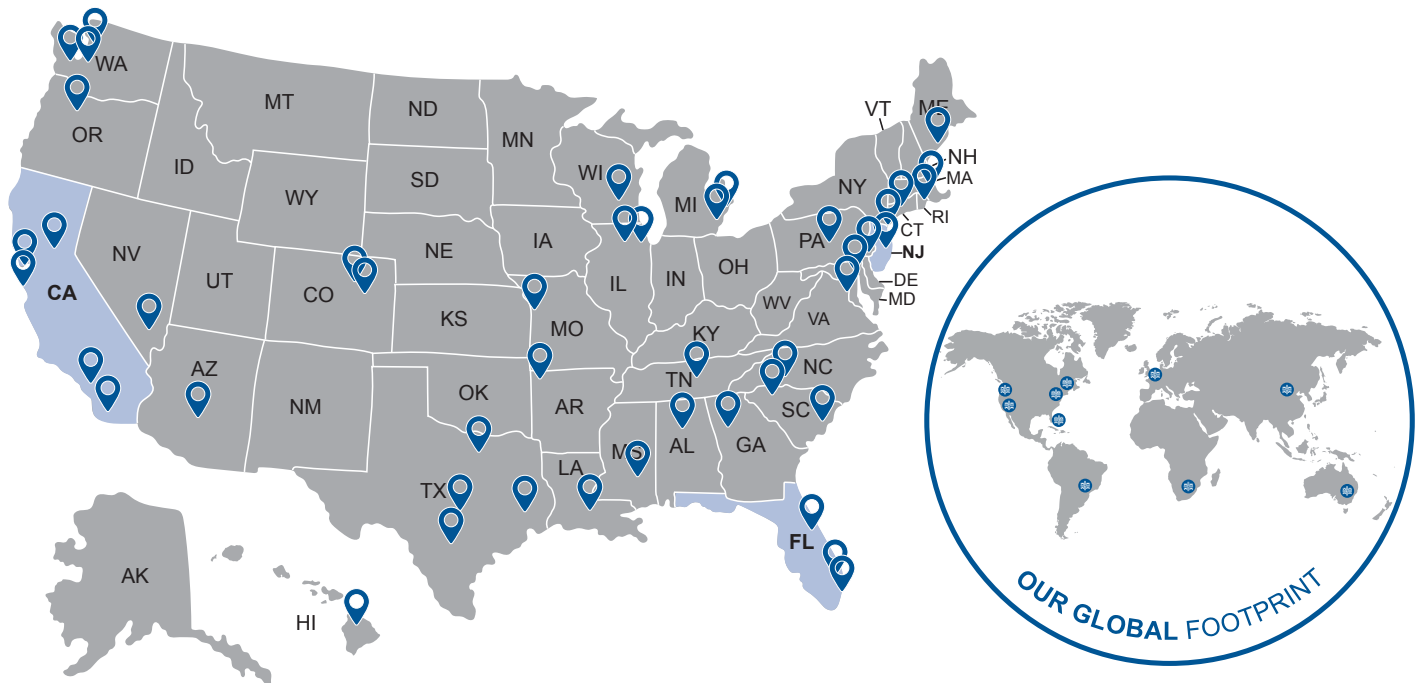
### Mechanical Stackers

Attended systems for multi-level basic stacking

### Custom Solutions

Creative solutions for custom design & exposure

## OUR USA PROJECT FOOTPRINT



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