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Forget the valet, let a robot park your car

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Images courtesy Jameson Development Corp.

Jameson House in Vancouver, B.C., will use an automated parking system similar to the one in this European garage.

Journal Staff Reporter

England's Sir Norman Foster, winner of the Pritzker Architecture Prize, is known for his bold designs, like London's bullet-shaped Swiss Re headquarters. Londoners quickly adopted the football-like tower as a city icon, dubbing it the Gherkin.

When Foster and Partners' first mixed-use residential building in North America, called Jameson House, opens in Vancouver, B.C., in 2009, the curvaceous structure will also feature an unusual innovation deep in its bowels. The 37-story tower will sit atop a robotic parking garage that will park your car for you.

Believed to be the third in North America and the first on the West Coast, the computerized garage will accommodate 230 vehicles. Drivers will pull their car into one of two transfer stations, each about the size of a two-car garage, and walk away. Once outside the station, the user swipes a card to close the station's door and activate the automated system. Sensors will measure the car and its wheels to determine where to place four forklift-like prongs that will carry the car to a parking space on one of five floors.

To leave, a driver will swipe a card and wait 90 seconds while the robotic system retrieves the car.

Popular in Europe, Japan

Automatic parking garages are common in Europe and Japan, where land costs are high and public tolerance for large parking structures often low.

Only two are known to exist in the United States: at the Summit Grand Parc apartments in Washington, D.C., and a 300-stall municipal garage in Hoboken, N.J.

Vancouver architect Walter Francl, who is collaborating with Foster and Partners on the building, said the site's space constraints led to the unusual parking system, with cars parked densely in spaces visited by humans only for the occasional system maintenance.

“You don't have to provide the maneuvering spaces like ramps and drives. We saved a considerable extent of excavation,” he said. “It saved us probably 2 to 2.5 levels of parking.”

Jameson House will preserve and incorporate two historic buildings, the 1921 Ceperley Rounsfell Building and the facade of the 1929 Royal Financial Building. Excavation will have to proceed carefully beneath the old structures. The city of Vancouver is allowing the new building to go taller in exchange for the historic preservation effort.

“Scale-wise, this is an aggressive building,” Francl said.

“It's an enormous amount of density being put on the site,” said Donald Luxton, president of the nonprofit preservation group Heritage Vancouver.

“I wouldn't say it's perfect,” he said, but “the preservation community is certainly happy about it.”

Uses less space

Francl declined to say how much the parking system will cost or name the company providing the parking technology since negotiations are under way. He said the system will allow “considerable savings” because the five unoccupied parking floors won't require the ventilation or safety measures that occupied floors would.

Dale Denda, research director at Parking Market Research Co. in McLean, Va., said he rarely sees automated systems costing less than \$20,000 per space.

“Automated parking is at least 20 percent smaller by volume (than standard parking structures) and very often approaching 40 percent,” Denda said.

Francl said the system has other obvious advantages. “Nobody gets to the vehicle, there's no problem with theft,” he said, “and you don't have to, as a woman at midnight, go down to level six below ground where you might not want to be.”



Jameson House will open in 2009.

The building-code hurdle

If they're so popular overseas, why haven't robotic “parkades,” as parking garages are known in Canada, taken off in North America?

“Land's been relatively cheap, and sites have been relatively easy to work on,” Francl said.

“It's not for lack of market interest,” said Denda. “It has largely to do with building code problems.”

He said local building-code authorities don't have a pigeonhole to fit robotic garages into yet.

“Is it a warehousing thing? Is it an occupancy? Is it a Ferris wheel?” he asked.

“They're very conservative,” he said of building code authorities. “If it doesn't fit in the code, it doesn't get built.”

Francel said Vancouver has no bylaws to deal specifically with automated parking systems.

“There will be a variety of building code interpretations and equivalencies required,” he said.

Jameson House's marketers highlight the building's sustainable features and say the 37-story tower will consume as much energy as a typical 12-story structure. The tower will even have its own power plant to cogenerate both electricity and heat for space heating and hot water.

Yet the building's designers may have shortchanged one parking feature that could have boosted the building's greenness: city of Vancouver permitting staff faulted the building for not meeting city standards for bicycle parking.