

Parking as a Destination



Christian Charisius/Reuters

A new Volkswagen Golf V is stored with other new cars awaiting owners at the Autostadt in Wolfsburg, Germany.

By [PHIL PATTON](#)

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IT was just a patch of black asphalt, but for the weary Manhattan motorist orbiting the narrow streets of Chinatown, it glimmered like an oasis in the Sahara.



Another awe-inspiring view of the the Autostadt center.

For years, Michael Schneeweiss of MGS Parking Management presided over that patch, dispatching attendants to greet parkers so happy to find a spot that they almost forgot to grumble about the rates.

But now the lot is gone. Reversing [Joni Mitchell](#)'s lyrics, the developers pulled up a parking lot and put in a paradise — a luxury condo development at 123 Baxter Street whose amenities include Internet-capable refrigerators.

The 100 parking spaces that Mr. Schneeweiss managed have been replaced, below the 24 condos, by 74 spots in New York City's first automated parking garage. Two dozen spaces will be reserved for apartment owners. Starting Thursday, the rest will be open to the public — first for monthly lessees and, come spring, for drive-ins.

The project is the work of AutoMotion Parking Systems, the American subsidiary of Stolzer Parkhaus of Strassburg, Germany. Stolzer Parkhaus has built 28 automated garages in 11 countries since its first, in Kronach, Germany, in 1996. The software and hardware that moves the cars around in the garages were adapted from systems that store materials in warehouses.

“This is the future,” Mr. Schneeweiss said during a recent tour of the Chinatown garage, shaking his head as if he did not quite believe it yet.

But the future is coming on fast in cities like New York, where shiny towers are rising over what had long been parking lots. “There is a proliferation of high-rise condo construction in major urban areas,” said Donald R. Monahan, vice president of Walker Parking Consultants in Greenwood Village, Colo., who follows innovations in the business closely. “Usually these have small footprints that do not offer enough room for traditional garages.”

Not only are developers looking at automated garages, city planners and architects are discussing new ideas to manage automobiles, even when stationary. Urban theorists and policy makers are increasingly looking at the effects of parking on traffic, development, pollution and energy efficiency. Smart parking could save energy.

Mr. Schneeweiss, a parking industry veteran who wears a jaunty racing cap, and Ari Milstein, planning director for AutoMotion, showed off the Baxter Street garage. A driver pulls off the street into a room roughly the size of a one-car garage attached to a house. The car rests on a large pallet, a traylike area with shallow troughs for the wheels.

“Lasers check that the car is aligned,” Mr. Milstein said, and determines that it is not one of the trucks or S.U.V.'s too big for the garage. The driver locks the car, takes the keys and picks up an electronic card from a nearby machine. A large door closes behind the car; motion detectors ensure that no children or pets are left behind.

Then the pallet holding the car slides below ground level, into two subterranean floors of storage.

“It's simple — park, swipe and leave,” Mr. Milstein said.

The returning driver pays — using a credit card at a machine, or handing cash to the human “parking concierge” in a booth. The machinery retrieves the pallet holding the car, which rises to ground level, pointing toward the exit. You unlock the doors and drive away.

“You get your car in under three minutes,” Mr. Milstein promises. “It’s as easy as an A.T.M. or E-ZPass.” Rates will be comparable to conventional parking in Manhattan, he said, about \$400 a month.

For the driver, the advantages of an automated system go beyond convenience and speed. The car remains untouched and unopened, and with the parking area ostensibly off limits to people, valuables are safe inside. Assuming the mechanized parts are functioning right, the car avoids potential scrapes and bumps. Seats and mirrors remain as you left them; the radio will still be tuned to, say, Lite FM. There is no tipping.

“You can even go shopping,” Mr. Milstein said, “bring things back to your car, lock them in the trunk and go on shopping.”

For the developer, automated garages offer cost advantages in construction and operation. By omitting ramps and walkways, about twice as many cars can be tucked into the space. Labor and insurance costs are lower, and getting cars in and out is faster.



Moskow Architects

Pez dispensers inspired Keith Moskow’s garage design for a car-sharing service.

Michael Stolzer, dispatched from Stolzer Parkhaus in Germany to help set up the new garage, showed off the computerized control area and the storage floors. The cars on their pallets can be stacked more tightly than those in a traditional garage; clearance in the storage cubicles is only roof-high, not human-head high.

The design recalls the way bakeries stack goods on racks: car cakes on trays.

AutoMotion has built only one previous project in the United States, a 74-space automated garage at the Summit Grand Parc, a luxury residential building in Washington,

not far from the White House. But the company has three more projects under way in the New York area, Mr. Milstein said.

Automated garages are much more common in Europe and Asia, said John Van Horn, editor and publisher of Parking Today, a magazine, Web site and blog based in Los Angeles. “There are thousands of them in Europe,” he said. “There is one on practically every corner in Japan. In the U.S., it has mostly been a matter of European technology licensed to people who don’t understand the parking industry.”

But the Baxter Street project is different, said Mr. Van Horn, who visited the site this month. “With the technology and the footprint there, it should be viable,” he said. There are economic incentives: a traditional garage on the site could have held only 24 cars, too few to be feasible. And, he noted, AutoMotion is affiliated with one of the building’s developers, the American Development Group.

An earlier and much publicized automated project in Hoboken helped to raise doubts about such operations. Opened in 2002, the Garden Street garage was designed by Robotic Parking Systems of Clearwater, Fla. In 2004, a Cadillac dropped several floors in the garage and a Jeep suffered a similar fate a year later. Jeff Faria, a spokesman for Robotic Parking, said the problems resulted from factors other than the garage’s equipment.

Mr. Van Horn said publicity about the Hoboken garage made developers wary of such projects.

Parking is a \$26 billion industry, according to the International Parking Institute in Fredericksburg, Va. The institute says there are about 40,000 parking garages and other facilities with 105 million spaces.

In “Park It! NYC 2007 ” (Park It! Guides) Margot J. Tohn says there are 1,110 off-street parking garages and lots in Manhattan, with 104,000 spaces.

That, most motorists would say, is not enough. According to surveys done by the National Parking Association, a trade organization based in Washington, the average cost of building a parking spot averages about \$14,000 nationally and about \$18,000 in the New York area.

Donald C. Shoup, an urban planning professor at the [University of California](#), Los Angeles, is an advocate of reform of zoning and building code requirements for off-street parking. In his book, “The High Cost of Free Parking” (American Planning Association), he contends that local regulations have distorted the shape of cities by subsidizing the automobile and penalizing people without cars, who tend to be less affluent. He has been embraced by the new urbanists and those who advocate “congestion pricing” tolls on city streets and highways.

Information technology could make parking easier and more efficient. At many airports and on the edges of some European cities, overhead digital signs display information about available spaces in parking decks. Various plans have been offered for finding and reserving parking spots by mobile phone or the Internet.

Professor Shoup argues for market-based parking, with rates that vary by the time of day or the season. Some planners advocate a high-tech, socially networked system of pricing — a spot market for parking spots. One start-up company exploring a system to reserve and rent spots is SpotScout (spotscout.com).

Proponents of automated parking like to compare their garages with vending machines. Long frustrated by the homeliness of traditional decks — dim places suitable for mob executions or reporters' meetings with Deep Throats — architects have taken inspiration from the vending machine to reimagine future garages.

In Europe, Smart dealerships display stacks of the lovable little cars in glass structures, as attractive as snacks. At Volkswagen's Autostadt customer center in Wolfsburg, Germany, where many buyers pick up their new cars, two silolike glass towers hold cars fresh from the factory. These are robotically retrieved by a central elevator and delivered to the customers waiting below, adding drama to the handover of the keys.

Inspired by Pez candy dispensers, Keith Moskow, of Moskow Architects in Boston, has sketched a concept for a see-through automated garage for car-sharing services like Zipcar. A German company, CarLoft (carloft.de), is building an apartment tower in Berlin that lets residents park their cars on their balconies. A New York architect, Annabelle Selldorf, has offered a similar vision for a Manhattan building with elevators that would let tenants drive their cars into garages next to their high-rise apartments.

The Smart Cities project of the Media Lab of the [Massachusetts Institute of Technology](http://www.media.mit.edu) has suggested a variety of possible visions of future parking. Smart parking places could signal their availability electronically to passing motorists. Ryan Chin, Mitchell Joachim and other researchers at the Media Lab propose to redesign vehicles to make them easier to park — the spatial demands of parking could be reduced by six to eight times, they argue, with small cars that nest together like grocery carts.