

Portland's new commuting toy: Robo-style 'puzzle parking'

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We've seen the future, and there are no parking valets.

Not human ones anyway.

At a 51-unit green apartment complex at Southeast 20th Avenue and Hawthorne Boulevard, developer Gerding Edlen is showing off the largest residential robo-parking system of its type in the U.S.

Portlanders can expect to see more like it soon, as building owners and managers increasingly turn to automated systems that stack cars, saving money and minimizing the amount of space needed for parking.

"Over time," development manager Damin Tarlow said today, "people are going to realize this is a wonderful solution to a common problem."

For decades, the car-park solution in high-density urban areas was to dig deep holes or go multi-story. So 20th century.

Instead, the new system at The 20 on Hawthorne building allows 29 cars to be parked in an area that would usually fit 10.

"Watch this," Tarlow said as he pulled his black Toyota Prius onto an industrial-strength metal "tray" inside the street-level garage. "It's so cool."

As soon as Tarlow walked away from his car, the automated parking system's metal gates, pulleys and hydraulics came to life.



One car below ground and another on a platform that rises up demonstrate how 29 cars can fit in a space normally filled by 10.

Whirring and clanking echoed through the garage as it moved vehicles parked on the trays up and down and side to side. Detecting the size of the automobiles, the machine stored a Mazda sedan below ground level, an SUV at ground level and Tarlow's smaller and lighter Prius up near the rafters.

"This a new type of system called puzzle parking," said Ryan Myers, vice president of automated-parking contractor Harding Steel.

It's a fitting name for the system, since the best way to describe how it works is to recall the sliding plastic puzzles with a blank square that once came in cereal boxes. (See a spiffed-up modern version of the puzzle here.) That's how the system works. There's always an empty spot, Myers said. Except "the machine does the puzzle for you," he said.

To retrieve their vehicles, residents simply swipe a magnetic card and their car is made available at ground level with an average wait time of 30 to 40 seconds.

A high-concept complex designed by GBD Architects, The 20 features loads of recycled materials, high-efficiency appliances and energy efficient glass windows, among other items that support a sustainable lifestyle. Second floor units include Eco-Roof patio areas.

The rise of robo-parking started on the East Coast about 10 years ago, and has had its glitches.

America's first automated car park, in Hoboken, N.J., made news in 2004 when an unoccupied Cadillac Deville fell six stories, and again a year later when it dropped a Jeep four stories.

But that hasn't slowed their growth. In Dubai, Robotic Parking Systems, the world's largest automated-parking developer, just built one capable of handling 765 vehicles.

"We've got four puzzle parking machines about to go into buildings in Brooklyn," Myers said.

Of course, entrepreneurs first tried this decades ago.

Some may recall Pidgeon Hole Parking, the first mechanical parking structure in downtown Portland in the 1950's.

But those elevator systems of yesteryear were staff-intensive, requiring attendants to move the big cars of the era onto hydraulic platforms, and required towering frames. What's more, the manually-operated lifts were notorious for breaking down on busy days. It wasn't uncommon for a family automobile to be trapped for a few days on the top level before a repairman could get to the scene.

Modern robo-parking, by contrast, is computerized and automated .

Since puzzle parking is about one-fourth the cost of excavating to build underground parking, Tarlow said Gerding Edlin plans to use them in future condo and apartment projects.

Tarlow declined to say how much the one at The 20 cost. Myers said Harding Steel builds the systems for anywhere from \$12,000 to \$20,000 per space, depending on the dynamics of the garage.

Certainly, there's nothing like it in Portland, which is why Gerding Edlen was holding demonstrations as part of a Smart Living Fair.

Hydraulic lifts that turn one space into two are an option at The Strand condos in downtown Portland, but residents have to move their own cars around.

Of course, one of the biggest challenges has been convincing tenants that they can trust their cars to a robot.

"Everyone walks up the first time and pauses for a second," Tarlow said. "But they quickly realize it's less stressful and easier to use than a traditional parking garage."

Later this afternoon, check The Oregonian's Hard Drive blog for a video of the new robo-parking system in action.

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