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THE VEHICLE OF THE FUTURE HAS TWO WHEELS, HANDLEBARS, AND IS A BIKE



got the self-driving car and drones big enough to carry people. Elon Musk is getting ready to bore hyperloop

faster.

future looks to be merging with sci-fi. But from where I stand, the most exciting form of transportation technology is more than 100 years old—and it's probably sitting in your garage. It's the bicycle. The future of transportation has two thin wheels and handlebars.

Modern tech has transformed the humble two-wheeler,

making the bike-share model possible: You check out a bike

from a docking station, use it for an hour or so, then return

to any other docking station. The concept was tried back in

transportation? Well, there are plenty of candidates! We've

tunnels. When it comes to moving humans around, the

the '60s but failed miserably because no one could track where the bikes went. Today, that's been solved with smartphone-ized tech: GPS, Bluetooth, RFID, and mobile-payment systems. And bike sharing has unlocked a ton of American interest in navigating cities on a bike: Usage has grown from 320,000 rides in 2010 to 28 million in 2016. In China, where gridlock

in cities like Beijing is infamous, the trend has grown even

But cooler tricks are possible. We're now seeing dockless

bike sharing, where all the tech is crammed into each bike,

eliminating the need for docking stations. When riders are

done, they just park and lock the bike and walk away; the bike simply awaits the next user. This makes the systems cheaper (those docks cost a lot), so dockless bikes can be rented for as little as a buck an hour. "It's personal mobility for the last mile," as Euwyn Poon, cofounder of dockless bike-sharing firm Spin, says. Dockless also creates something like self-governing

needed, rather than where docks will fit. This seems to make bike sharing more fair:

Rzepecki suspects they'll eclipse the appeal of regular bike

This is a pretty solvable problem, though, if cities decide to

So sure, bring on the self-driving cars. Dig those hyperloops!

But for a world that's rapidly urbanizing and heating, the

limit the number of dockless bikes.

need to reinvent the wheel.

Write to clive@clivethompson.net.

sharing, because you could arrive at work without being

Seattle city councilmember Mike O'Brien has observed anecdotally that dockless bike sharing is used by a broader demographic, in part because it's super cheap and the bikes can circulate outside the welloff downtown neighborhoods. Want even more inventiveness and innovation? Behold the next phase arriving in a few years: dockless electric bikes. Batteries are cheaper and lighter than ever. One US firm, Jump Bikes, has custom-designed dockless ebikes sprinkled around San Francisco and Washington, DC. CEO Ryan

internet logic, with bikes as

packets routed where they're

drenched in sweat. "The number of people who are willing to ride electric bikes is probably 10X that of people who are willing to ride a regular one," he says. Clearly the bike-share revolution has limits. It probably won't work outside urban areas. And if too many bikes flood a city, dockless systems can produce chaotic piles of bikes on certain sidewalks and streets, as has happened in China.

truly cool tech is bikes. And bike sharing has oodles of civic benefits too, says Elliot Fishman, director of Australia's Institute for Sensible Transport: It relieves pressure on public transit, produces vanishingly small emissions compared to cars, and, at least with nonelectric bikes, boosts the overall exercise level (duh!). Best of all, the bike-tech revolution reminds us that innovation isn't always about the totally new. It's often just

as powerful to blend a robust, old tool that works well with a

bit of new tech to make it better. Sometimes you truly don't

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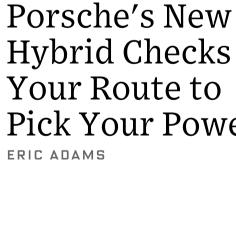
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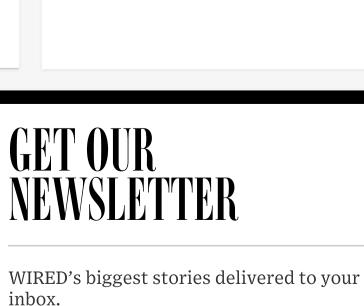
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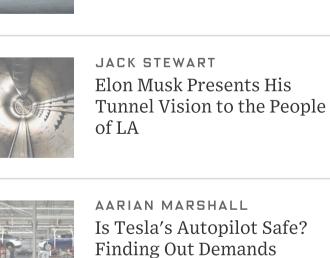




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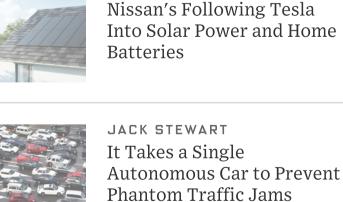
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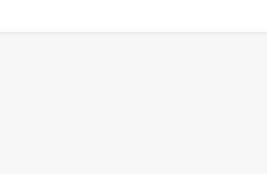
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