Shared Electric Two-Wheelers Are Booming in Chinese Cities

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China is the world’s largest market for electric two-wheelers, with over 85% of the global market share in 2019.¹ At the end of 2020, there were approximately 325 million e-bikes in China, and the figure is expected to continue to grow. In most large cities, although privately owned e-bikes are allowed on the road, shared e-bike systems are not permitted. In contrast, shared e-bikes and e-mopeds are gaining popularity in small to mid-sized Chinese cities. According to a 2019 report by iResearch, among 1 million shared e-bikes nationwide, over 98% of users are from small and mid-sized cities.² In many Chinese cities, shared e-bikes offer a low-cost and easily accessible mobility solution.

“I started to use shared e-bikes after the outbreak of COVID-19 because they are as cheap as public transit and, more importantly, I can avoid the crowds.”
— Shared electric two-wheeler user

SAFETY

As restrictions have eased, and with the perceived low risk of infection outdoors, people have been more willing to choose new active transport modes. In China, shared electric two-wheeler systems have been better able to adapt successfully to safety and other regulations than private vehicles. Shared electric two-wheelers are also controlled by operators and officials who are involved in standardized purchasing, charging, and maintenance. This state control has been attributed to keeping vehicles safer.

ACCESSIBILITY

Like shared bikes, most shared electric two-wheelers are dockless in China. Customers can find and park the e-bikes in

² https://www.imedia.cn/c440/72366.html
any designated safe place, like sidewalks and roadsides. They also do not need to worry about battery charging and maintenance problems, because the shared electric two-wheelers providers will send ground staff to swap batteries and check vehicle conditions.

**AFFORDABILITY**

The payment method is flexible for shared electric two-wheelers. While customers often opt for a single ride pass, which is calculated by distance, subscriptions are also available. If the customer pays for a single ride, fees are calculated based on the minimum fee and the amount of time the customer uses the vehicle. Most shared electric two-wheelers providers offer both limited and unlimited ride passes with a contract period ranging from a few days to a year. The price of using these vehicles is approximately the same as taking buses and subways.

**COMFORT**

Compared with pedal bikes that require human power, electric two-wheelers are fully or partly powered by electricity. This allows riders to travel a longer distance with less effort and greater speed, which creates a more efficient and comfortable travel experience.

**PROFITABILITY**

“The profit of launching 1 shared e-bike is equivalent to launching 20 shared bikes. This means less investment could also bring better travel experience for citizens.”

— Ningbo regional manager of a shared e-bike company

From the operator’s perspective, despite the initial costs, investing in shared electric two-wheelers could increase profitability more quickly than shared bikes. The following table shows 2019 riding data from Ningbo, a mid-sized city in southeast China.

<table>
<thead>
<tr>
<th>2019 Ningbo shared bike and e-bike riding data</th>
<th>Shared bikes</th>
<th>Shared e-bikes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quantity (per one thousand vehicles)</td>
<td>260</td>
<td>20</td>
</tr>
<tr>
<td>Average turnover rate per day (in thousands)</td>
<td>35</td>
<td>56</td>
</tr>
<tr>
<td>Average daily turnover rate (%)</td>
<td>13.29</td>
<td>340</td>
</tr>
<tr>
<td>Average number of rides per vehicle per day</td>
<td>0.14</td>
<td>3</td>
</tr>
<tr>
<td>Active vehicles (%)</td>
<td>2.68</td>
<td>Over 75</td>
</tr>
</tbody>
</table>

In Wenzhou, China, a small county in Shanxi Province, people ride shared two-wheelers. Photo: ITDP China
SHARED ELECTRIC TWO-WHEELERS ARE BOOMING IN CHINESE CITIES

The average turnover rate of shared e-bikes (340%) is significantly larger than that of shared bikes (13.29%).

Although this may be due to the small number of shared e-bikes launched in Ningbo, it is clear that if citizens have the opportunity to choose between bikes and e-bikes, shared e-bikes are more popular. People will accept the slightly higher price of e-bikes to have faster service.

ENVIRONMENTALLY FRIENDLY

In smaller cities in China, where the public transit system is not well developed, people rely on motorbikes and private cars for medium- and long-distance travel. The affordability and accessibility of shared electric two-wheelers provide an attractive alternative to cars. According to a user survey by Hello Bike, shared electric two-wheelers replaced 25% of shared-bike trips, 23% of bus trips, and 18% of walking trips. As a result, such a mode shift has enormous potential to reduce emissions and improve air quality.

ECONOMIC GROWTH

Shared electric two-wheelers could improve people’s mobility efficiency, leading to more frequent long-distance travel. Impacts of COVID-19 have driven cities to look for catalysts to spark economic activity. Many smaller cities in China are encouraging the launch of shared electric two-wheelers to help people move around quickly and easily, potentially igniting economic activity.

While shared bikes aim to close the first-last mile gap, shared electric two-wheelers could effortlessly take people from 3 kilometers to up to 10 kilometers. The affordable price and accessible features make this type of transportation mode more popular in many smaller cities in China. From the operator’s perspective, the higher price and turnover rate make shared electric two-wheelers more profitable than shared bikes. For the local government, shared electric two-wheelers have the potential to improve air quality and drive economic growth.