ASIA'S LEAD IN NEXT GENERATION MOBILITY

Why 5 Asian cities may beat the West on next-generation mobility

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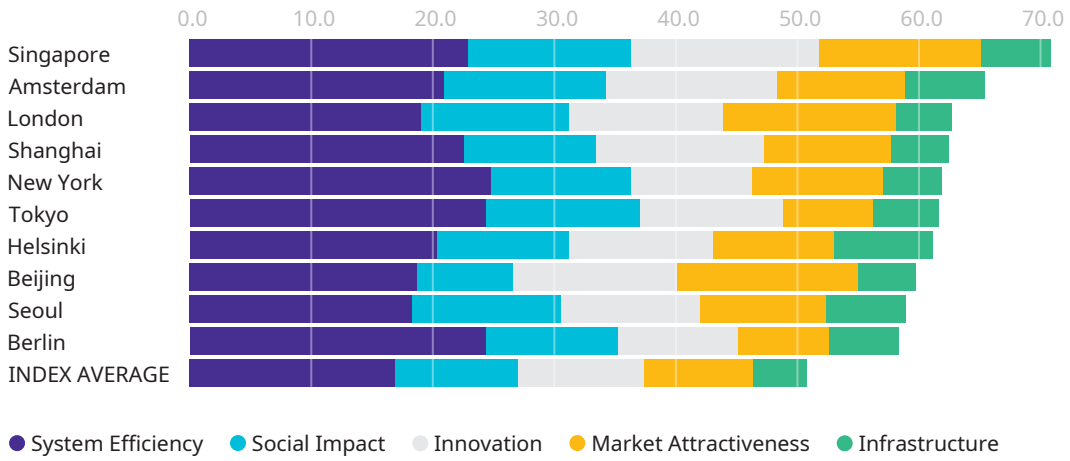
In the 20th century, Asian economies slowly took over the manufacture of clothing, toys, and electronics and used them to grow their economies. Now, they are setting their sites on 21st century mobility technology as an engine of growth for their largest urban economic epicenters. In Asia, many of the region's biggest cities are betting on advanced mobility technologies to help them attract business, grow economically, and solve two persistent problems — pollution and congestion.

In the Urban Mobility Readiness Index from Oliver Wyman Forum and the Institute of Transportation Studies at the University of California Berkeley, five Asian cities finished among the top 10 because of their commitment to advanced technologies and infrastructure investment. The index, which focuses on how prepared cities are to incorporate and benefit from new mobility technology, ranked Singapore first for being a mobility model from its traffic management and electronic road pricing system to its autonomous vehicle research. Among the other Asian cities in the top 10: Shanghai — number four, Tokyo — number six, Beijing — number eight, and Seoul — number nine. (See Exhibit 1.) To view the entire index of 30 cities, please click here.

Exhibit 1: The top 10 cities on the Urban Mobility Readiness Index
Cities are ranked on a scale of 1 to 100, based on how well they meet five core criteria



Source: Oliver Wyman Forum analysis

Why did Asia perform so well? A look at Singapore and Shanghai provide some answers.

One of the secrets to Asian competitiveness in mobility lies in the determination of municipalities to be either among the first to debut the latest technologies and solutions — or at least leaders in their adoption moving forward. From autonomous cars and ride-hailing, to electric vehicles (EVs) and high-speed rail, Asian cities — particularly Chinese cities — are in the forefront.

CENTERPIECE FOR GROWTH

For good reason, they need these new, cleaner technologies to overcome the congestion and pollution that hold back economic growth and hurt their livability. Early on, they recognized that new transportation technologies, such as electrification and digitizing the current transportation network, could help relieve the pressures by reducing the number of internal combustion vehicles and making urban mobility a more seamless, less aggravating experience.

More so than many European cities in the index and much more so than all of the North American cities, these leading Asian cities provided regulation and investment in infrastructure aimed at promoting the new mobility technologies. In the case of Singapore and Shanghai — both major port cities heavily dependent on trade — government policymakers recognized these technologies as potential economic game changers. For both cities, as well as the nations they are in, mobility became a centerpiece of economic growth strategies.

In the case of Singapore, the government's Smart Nation Initiative early on identified mobility technologies as key levers for progress. It supported development of world-class facilities for autonomous vehicle testing, collaboration with industry and academia on mobility solutions, smart traffic management, and a nurturing environment for mobility startups. For instance, Singapore is home to Grab — a popular on-demand transportation network and app. Identified by Crunchbase as one of the best-funded mobility startups globally in 2018, Grab transports people, delivers food and other goods, offers a cashless payment system, sells tickets, and books hotels, among other things. Singapore also was the birthplace of nuTonomy, which launched one of the world's first robotaxi services in 2016.

CHINA'S EV DRIVE

Meanwhile, China for the past decade has been providing substantial subsidies to Chinese consumers to buy electric vehicles and limiting the number of license plates available for internal combustion cars. It also embarked on an initiative known as Made for China 2025, which supplied support for EV startups and others working in mobility technologies and business models. Thanks to both efforts, China has become not only the largest market for electric vehicles on the planet, but also the largest producer of them.

The adoption rate of electric vehicles in China far exceeds that of most other countries. Of the more than five million electric cars on Earth in 2018, more than one million of them were on Chinese roads. China operates more than 420,000 electric buses versus a few hundred in the United States. China also controls 60 percent of the lithium-ion battery market, the primary engine for electric vehicles. Shanghai's and China's EV-friendly policies no doubt contributed to the decision by Tesla to build its Gigafactory nearby. And while recent moves to pull back on subsidies may slow growth, the expectation is for China to continue its leadership in EV technology and of the EV marketplace for years to come.

These mobility-centric policies proved to be significant boons to cities like Shanghai and Beijing in their fight to address congestion and pollution. Shanghai and other Chinese cities were able to prioritize increasing the number of miles covered by subway over the past decade. Today, Shanghai has around 400 miles of subway and 16 lines, even though its metro only opened in 1993. Beijing isn't far behind with more than 380 miles and 22 lines.

THE RACE TO GO AUTONOMOUS

While US companies are keeping up and even surpassing Asian companies on road-testing autonomous vehicles, Asian municipalities have been actively supporting and funding public and private sector research efforts in autonomy. As the first city in China to test autonomous vehicles, Shanghai is home to the National Intelligent Connected Vehicle (Shanghai) Pilot Zone and has close to 25 miles of roadway where self-driving vehicles can be driven and evaluated.

Singapore is home to Nanyang Technological University, the National University of Singapore, and the Singapore-MIT Alliance for Research and Technology — leaders in connected autonomous vehicle research — as well as several fast-growing startups focused on self-driving technology. And while not always friendly to privately owned automobiles — a ban on new sales was imposed in 2018 — Singapore encourages researchers to use the city and surrounding area as a laboratory for autonomous vehicle testing.

Ultimately, Oliver Wyman Forum's Urban Mobility Readiness Index indicates a potential changing of the guard when it comes to transportation and urban mobility. The lesson for European and North American cities may be a simple one: It can make a difference for their future growth to have government policies and investment in urban mobility more aligned to the needs of the latest technologies and challenges.

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This article first appeared in Forbes.

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