Deloitte. Insights

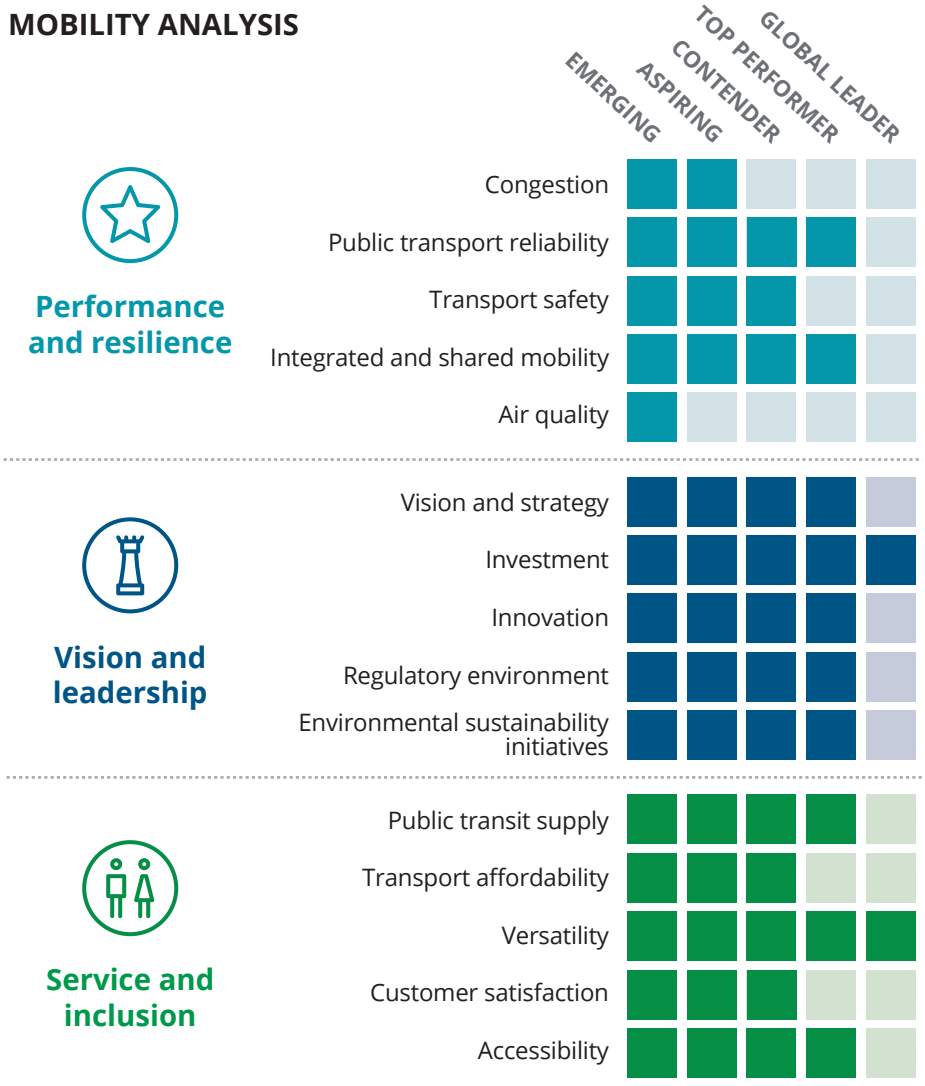
Deloitte City Mobility Index

Analysis area

Shenzhen

Analysis area: 1,997 km² | **Population:** 12,530,000 (2017) | **Population density:** 6,274/km²
Definition of analysis area: Shenzhen Municipality, consisting of all 10 districts

MOBILITY ANALYSIS



KEY MOBILITY STATISTICS

Public transport options*
Metro, tram, bus, commuter rail, bicycle, ferry

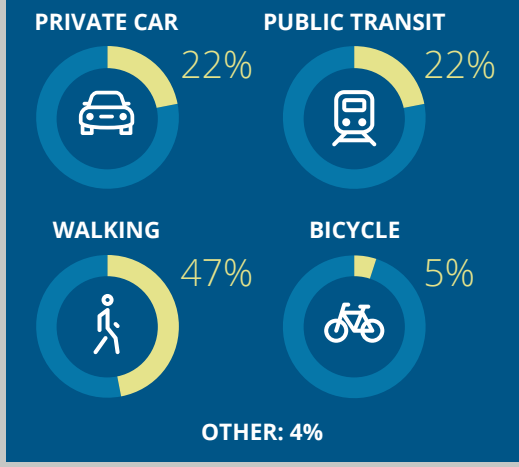
Monthly public transport pass
US$23

GDP
US$338 billion (2017)

Principal transport authority
Transport Commission of Shenzhen Municipality

**Planned, regulated, licensed, subsidized, and monitored by principal transport authority.*

JOURNEY MODAL SPLIT



FUTURE OF MOBILITY CAPABILITY

STRENGTHS

- Provision of city-wide pedestrian-friendly infrastructure
- Parking management schemes to improve road capacity
- Collaboration with the private sector to use technologies such as AI and big data for traffic law enforcement

CHALLENGES

- Curbing high congestion given the high motor vehicle density and limited road infrastructure
- Reducing real estate–related market risks in suburban regions when expanding "Rail+Property" models (a type of land value capture)
- Maintaining quality and coverage of road infrastructure, as the urban population and car ownership rise

Key focus areas to improve city mobility and realize the Future of Mobility:

- Implement revised land use policies to accommodate rising car ownership
- Encourage the use of public and active modes of transport to mitigate congestion-related issues
- Reduce financial dependence on government capital for maintaining public transportation networks

MOBILITY ANALYSIS FURTHER DETAILS:

Performance and resilience

Shenzhen is using AI and big data techniques to improve road safety. It is also using trading mechanisms and parking policies to deal with greenhouse gas (GHG) emissions and congestion.

- The city is collaborating with private companies to use AI and big data to improve road safety, communications, and peer efficiency. The Shenzhen Traffic Police Bureau uses these technologies to identify images of traffic violations, with 95 percent accuracy.
- In order to deal with the GHG emissions, Shenzhen has included the public transportation department in its carbon trading program, Shenzhen ETS.
- Shenzhen is piloting a parking management policy to address congestion challenges. The policy is aiming to take 330,000 vehicles off the road each day.

Vision and leadership

The government has recently reformed land policy to finance transportation programs and is subsidizing charging infrastructure to push electric vehicle (EV) adoption.

- While using "Rail+Property" models to finance infrastructure projects helps attract private investors, reduces land fees, and decreases dependency on government capital by almost 50 percent, it also introduces market risks.
- To accelerate the EV adoption, the city is primarily focused on subsidizing the construction of charging infrastructure. By 2018, the city's electric bus fleet will have more than 16,000 battery-powered buses in operation.
- Shenzhen is a hub of the Greater Bay Area, part of the national strategy to create an integrated economic zone by connecting Hong Kong, Macao, and other districts. Once infrastructure projects are completed, the city needs to work on developing intercity transportation.

Service and inclusion

Shenzhen has a highly accessible public transportation system overall; however, the bus infrastructure needs improvement.

- The city has a robust public transportation system, with good geographic coverage and accessibility. Around 80 percent of bus stops in the city are available within a walking distance of 500m.
- The city is extending the metro network as well as a road construction program to further develop and strengthen public and private transport in expanding exo-urban regions of the city.
- All metro stations in Shenzhen are equipped with barrier-free lifts; however, the city bus system is not accessible to disabled people.

SUMMARY

With its consistent focus and investments in the electrification of transport modes, Shenzhen has marked its presence on the global map by switching on the world's largest electric bus fleet. The city has very strong carsharing and bikesharing systems, which helps make the transportation system sustainable and provides first- and last-mile solutions.

The transport authority of Shenzhen is currently focusing on tackling the high congestion levels in the city by using technologies and effective parking management. If Shenzhen is able to keep its transit system growing at the same pace as its economy, it can potentially become the leading global city for public transportation.

CONTACTS

Simon Dixon
Global Transportation leader
Partner
Deloitte MCS Limited
Tel: +44 (0) 207 303 8707
Email: sidixon@deloitte.co.uk

Marco Hecker
Future of Mobility leader
Deloitte China
Tel: +852 2852 6588
Mobile: +86 185 1622 1169
Email: mhecker@deloitte.com.hk

Clare Jiong Lin Ma
Smart City leader
Deloitte China
Tel: +86 21 2312 7461
Mobile: +86 137 0164 6437
Email: clarma@deloitte.com.cn

About the Deloitte City Mobility Index
The Deloitte City Mobility Index reviews major cities on key aspects of mobility and the resulting relationship to economic performance. Drawing on publicly available data, client conversations, and bespoke Deloitte analyses, we assess each city's ability to transport its citizens both now and in the future and therefore its potential to bring prosperity to the city.

As we receive feedback, we will update and expand the analysis, which may mean the results shown in this document may change.

For the full interactive index, visit the Deloitte City Mobility Index at deloitte.com/insights/mobility-index.

For Deloitte's insights on the Future of Mobility, visit deloitte.com/insights/future-of-mobility.