



Singapore

Asia's Sustainable City

Part 1: Milestones



"Singapore's role as a 21st-century hub for global growth is a throwback to its earliest days as a pivotal East-West trading post and rendezvous point for merchants and sailors. One of Asia's most successful economies has gone far beyond what Sir Stamford Raffles, its founder, envisioned when he bought the island from its Malay ruler in 1819 and set up as a trading post. From a sleepy village, Singapore grew rapidly, drawing immigrants from China, India, Europe and neighbouring Malaya and Indonesia. The driving force behind Singapore's success was **Lee Kuan Yew** [Figure Above], who as Prime Minister (until 1990) led Singaporeans into a high-tech awakening. Massive public housing projects and the establishment of educational facilities were initial priorities. Today, Singapore, with its 5 million people, is famed for its economic stability, efficient infrastructure, sparkling cleanliness and of course, sustainable development initiatives." Amended. Partially © insightguides.com

1958-65 Independence

- After 7 years of debate, Singapore finally gained independence from Malaysia (both former British Colonies) which allowed it to properly self-govern as a nation state for the first time. Set up as a benevolent, primarily one-party state 'democracy' of sorts. Although this has brought complaints of freedom of rights, it has served to benefit the city state against its neighbours due to its highly efficient, lean governance, low corruption and strong leadership.

This is a great link to Global Systems & Governance! Remember the concept of Synopticity? This is a key strategy covered in the [Geography Portal A-Level Exam Strategy & Info Guide](#) and involves the interlinking of topics within the Geography specification in answers.

1967 ASEAN

- Singapore, Malaysia, Thailand, Indonesia and the Philippines form the 'Association of Southeast Asian Nations (ASEAN)'. Now comprised of 10 nations, with a combined wealth of nearly \$10 Trillion, this is an intergovernmental organisation which promotes economic growth, political stability, development and more in some of the world's fastest developing NEEs. It's seen as an economic powerhouse. Singapore's role, even as a small country is large and its external influence growing.

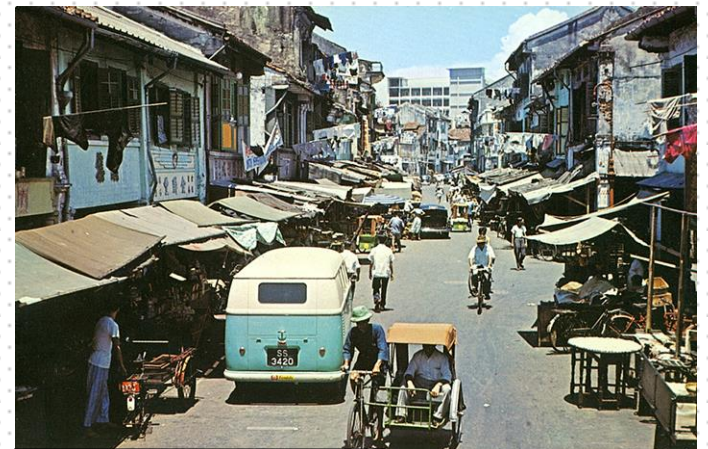


Figure 1 – Singapore Centre in 1950

1990-1991 Political Changes

- In 1990, Singapore's leader, Lee Kuan Yew, steps down after 31 years as prime minister and hands the reins over to Goh Chok Tong. The constitution is amended to provide for an elected president and fairer, more democratic elections. From this point, their economy began to skyrocket, with GDP in 2020 4 times higher than in 2000.



Figure 2 – Singapore CBD in 2020

2008 - 2009 Culture & International Significance

- Singapore weathered the global financial crisis remarkably well, and for a country of only 5 million or so people, it punches well above its weight on the global stage. Not only in 2008 did it win the 2010 Youth Olympics bid, constructed the world's tallest observation wheel [Figure Below], hosted F1 championships and more, but it also hosted the 2009 Asia-Pacific Economic Cooperation (APEC) conference.
- APEC's HQ is in Singapore.

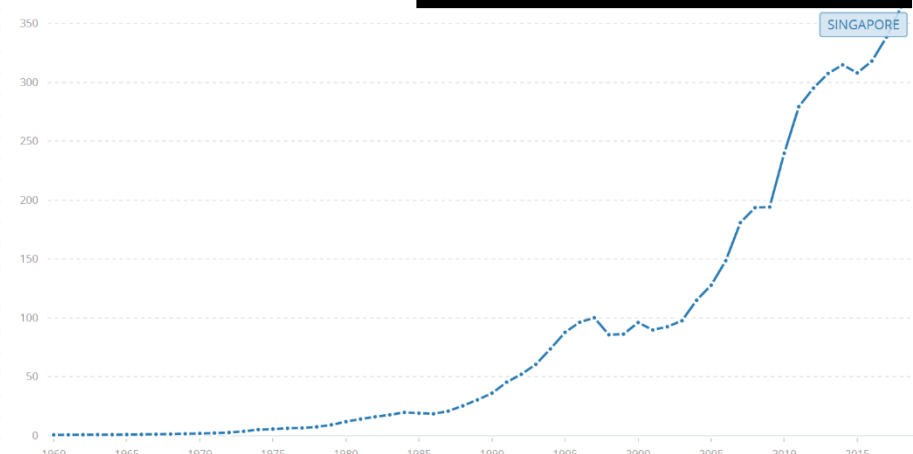


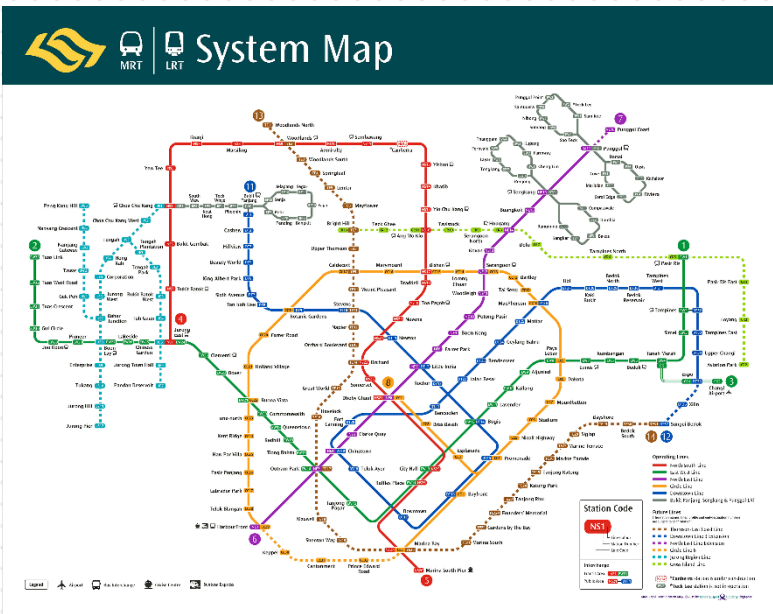
Figure 3 – GDP growth since 1960 \$B source: World Bank

Part 2: Sustainable Urban Development

A) Direct Intervention IN TRANSPORT REGULATION

Singapore is particularly notable for its immense public funding into sustainability-focused projects around the country. Their innovative urban planning since 1990 has been three pronged. This is what is often credited with its success globally.

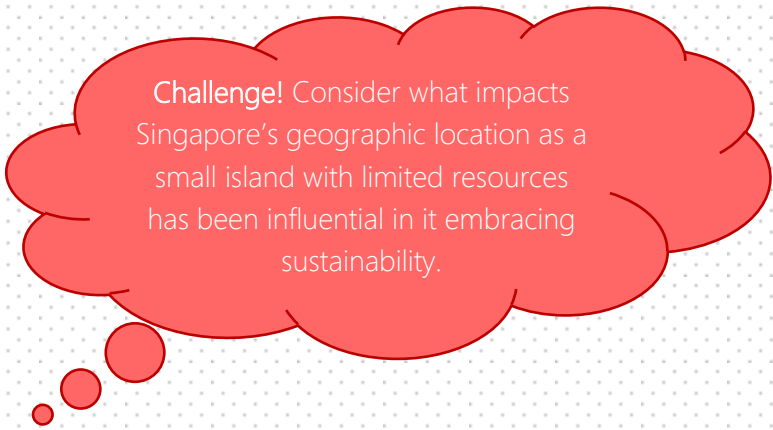
Firstly involving **direct intervention** methods to **disincentivize** Singaporeans from being unsustainable without harming the economy, through making certain means of transport easier or more difficult.



Since the opening of the first line of the **Singapore MRT (Mass Rapid Transit)** in 1987, the city's focus has been very heavily on getting people out of cars and onto public transport, especially their 120+ station long metro and light rail network, built at a cost of well over US\$42 Billion. This has been designed so that people living in housing estates can take a small train to a larger metro station which they can take into the city, thus wholly reducing the need for a car within the city.

Why is this direct intervention? Well, obviously given the tropic climate it would be much less hassle to take a car into the city; but for many years the state has done everything it can to reduce car usage and road emissions (which contribute over 25% of the total in London) to a minimum. This involves disincentivising people from even owning a car in the first place, not only because of the highly efficient (99.9% on time) Singaporean transport network, but also because car sales are very expensive and auctioned. Residents need to apply for a **Certificate Of Entitlement (COE)**, which allows them to bid for a car. Electronic Road Pricing is regularly enforced and hence car ownership becomes prohibitively expensive for most people. *Only 1 car per 8.5 people in Singapore, one of the world's lowest.*

There are obviously issues with this solution – it has caused severe overcrowding on metro services and many additional costs for the state, which critics argue could be better spent.

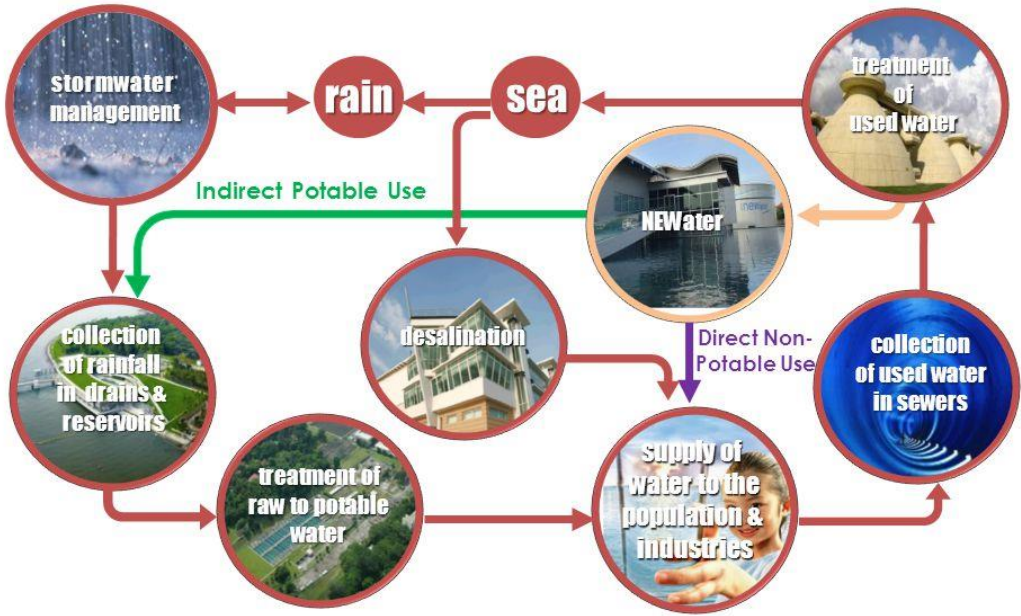


B) Water & Waste Management

Singapore's topographic makeup presents many challenges when it comes to resource management, none more so than water. When it was newly independent, access to fresh water was limited, and importing from neighboring Malaysia could be costly. But that challenge did not stop the **Public Utilities Board (PUB)** from developing novel ways over the years to make the most of what the tiny nation-state had. Singapore now takes advantage of three water management innovations: reuse of reclaimed water, rainwater catchment systems and saltwater desalination; and has consistently some of the lowest **Non-Revenue Water (NRW) Percentages** in the world at 5%. This means that water is used so efficiently that only that small percentage is wasted or lost, compared to around 19% in the UK.

NEWater is a scheme set up by the Public Utilities Board in 2000, with a network of four plants producing very highly treated wastewater which is used by industry or sold as bottled water across the city. This is far faster and more safe than conventional methods of wastewater removal, with government data showing it can meet up to 40% of Singapore's water needs, and up to 55% by 2060.

PUB manages the complete water cycle



C) 'Green' Urban Planning Schemes



Another oddity of Singapore's geography is that it's located on swampy, loose ground, and much of the city is therefore constructed on reclaimed land from within the bay, including the entire **Marina Bayfront** area [Figure Left], opened from April 2010 onwards

(fun fact: I went to the opening when I was stuck in Singapore three weeks due to the Eyjafjallajökull eruption – it truly is fantastic!)

One of the highlights of this new quarter is the international acclaimed botanical gardens 'Gardens By The Bay,' opened in 2012 and spanning 101 hectares (250 acres) in the Central Region of Singapore, adjacent to the **Marina Reservoir**. The park consists of three waterfront gardens, with the largest glasshouse in the world.

Gardens by the Bay was part of the nation's plans to transform its "Garden City" to a "City in a Garden", with the aim of raising the quality of life by enhancing greenery and flora in the city at a cost of over \$700 Million. It acts as a giant educational exhibit into world flora and also a giant carbon sink and research facility into sustainability.

Although Singapore is a very cramped country, other initiatives such as widespread urban greening and high-rise living encourage more sustainable lifestyles. The government has also allotted a 37km² **Central Catchment Area** in the center of the island, on which no development can take place. This wide stretch of tropical rainforest is an example of deliberate zoning in order to maintain swathes of the city for nature exclusively. It also holds many of Singapore's local backup reservoirs.

REED'S In an exam you could be asked a 9-Mark question about a 'named case study' of Sustainable Urban Development, evaluating the successes (to which I would use London as there are more critical aspects to their plans), **OR** a 20-Mark question on comparing two named contrasting examples of Sustainable Urban Development. Here I'd suggest using Singapore and Nigeria as our case studies, because their approaches to this couldn't be more different. Below is a link to an exam style question on this topic with helpful hints to get you started 😊

https://583daeb7-8767-411c-9387-a7803a5f9622.filesusr.com/ugd/927b29_d4300c69fb744832ba49f03caa93cfd3.pdf

Exemplar Answers / Mark Scheme may also be available.

SPACE FOR ADDITIONAL NOTES:

Useful Links: (& Sources)

<https://www.nationalgeographic.com/environment/urban-expeditions/green-buildings/green-urban-landscape-cities-Singapore/>

^ A great article from the National Geographic on Singapore's efforts to become the world's greenest city, and their progress thus far.

<https://www.theguardian.com/cities/2016/apr/21/story-cities-singapore-carefully-planned-lee-kuan-yew>

^ My favourite CUE Links – the Guardian Story Of Cities feature #27/50 on Singapore. "The most meticulously planned city in the world"

<https://www.csc.gov.sg/articles/developing-a-liveable-and-sustainable-singapore>

^ Another article from the Singapore Civil Service College with a greater social and economic implications of the strategy

<https://www.aljazeera.com/programmes/earthrise/2017/05/singapore-asia-greenest-city-170531102946823.html>

^ A video from the Al Jazeera (I wouldn't usually link them, but this is an exception) Earthrise short documentary

File Errors? Please report them via. the Geography Portal!

Many Thanks - L.Pearson