CAN RAPIDLY DEVELOPING ASIAN CITIES UPGRADE TO 21ST-CENTURY INFRASTRUCTURE MORE READILY THAN THEIR WESTERN COUNTERPARTS? NOT WITHOUT MANAGING POPULATION GROWTH, SAYS KRIS HARTLEY

OVERCROWDING ON THE ORIENT EXPRESS

URBAN PLANNERS are faced with the challenge of maintaining infrastructure services amidst budgetary constraints, restrictive regulations, and booming demand. In Asia's rapidly developing cities, roads, bridges, and airports seem to appear with the snap of a finger. However, Asia faces headwinds in infrastructure development, not least of which is overcrowding. Infrastructure strategy should include a holistic policy effort to manage demand through population control.

Asia often seems to have a clean slate for development, bolstered by deep coffers and strong political authority. By contrast, the West appears stagnant and inefficient, unable to manage crumbling infrastructure. This was not always the case. During the early modern era, infrastructure innovations in the West applied new technology to improve lifestyles, first through water transport and ultimately mass transit, electricity, and modern construction methods. Limited international benchmarking and vast differences in wealth generated an infrastructure gap between the West and the rest.

Since the mid-20th century, however, Asia has outpaced the West in infrastructure growth. In addition to policy systems unfettered by democratic obstructions, moderate fiscal stability has enabled rapid and widespread development. New airports, rail systems, and highways are quickly transforming the urban landscape.

For example, Shanghai's massive **Pudong Airport** took less than a decade from planning to operation, and only two years to construct. The 300kph maglev train from the new airport to central Shanghai was completed in four years.

While Asia continues to set the 21st-century standard for development, the West is struggling to modernise legacy infrastructure as development restrictions, political wrangling, and limited fiscal resources stunt progress. Berlin's Brandenburg Airport has been planned since 1990, and a quarter of a century later is still under construction. Heathrow's Terminal 5 took 20 years from planning to operation, and a proposed third runway is threatened by grassroots opposition and central government hesitancy.

"CREATIVE PLANNING MUST ANTICIPATE INNOVATIONS AND DELIVER INFRASTRUCTURE AMIDST EXISTING SYSTEMS AND FISCAL CONSTRAINTS"

Legacy liabilities

Despite Asia's recent building binge, its image as a world leader in infrastructure development may be weakening. Among many complicating factors is massive demand, which strains existing infrastructure and impedes expansion. Like the West, Asia must also work around legacy infrastructure. The challenges facing both are how to build over, through, and around existing systems while maintaining service continuity levels for a growing population. This often imposes costs on uncompensated parties.

In dense cities like Bangkok and Jakarta, infrastructure development can be highly disruptive, with multi-year construction projects (for example, subway systems) threatening local economies. In Ho Chi Minh City, construction on the city's **first metro rail line** has long diverted traffic and complicated pedestrian access in several core business districts. This type of collateral cost is not unique to Asia, but in the region's densely populated cities any spatial disruption is significant, and extended construction delays can be fatal for local businesses.

Additionally, as Asian cities age and infrastructure requires replacement, development will increasingly require a destroy-and-rebuild approach. Urban renewal programmes of this sort in 1960s America negatively impacted low-income residents, and the same is now true of many private and public developments in Asia. Displacement and under-compensation for appropriated land are common, raising questions about the legitimacy, political feasibility, and transferability of Asia's supposedly efficient, clean-slate development models.

Aside from infill and urban core redevelopment, Asian cities continue to grow outwards as well. Public and private investment are lavished on suburbs, satellite towns, and industrial estates, but land grabs at the urban periphery have ethical costs, as families are displaced and agricultural livelihoods are destroyed. The feeling that space is plentiful recalls America's Manifest Destiny years, from which a liberal development philosophy emerged and now implicitly supports modern sprawl. Despite the aggressive efforts of many Asian cities to stay ahead of growing demand for suburban development, particularly Western-style shopping malls and low-density housing, population always seems to catch up with new infrastructure sooner than expected.

"ASIA OFTEN SEEMS TO HAVE A CLEAN SLATE FOR DEVELOPMENT, BOLSTERED BY DEEP COFFERS AND STRONG POLITICAL AUTHORITY"

Politics and pillars in Bangkok

Despite stories of success (many from China), Asian infrastructure projects are often beset with challenges. Development of Bangkok's **Suvarnabhumi Airport** experienced repeated setbacks from protests, corruption, and political instability; nearly three decades separated initial planning from operation. Further, after only two years construction was suspended on the city's US$3.2 billion 'Hopewell' elevated rail line, which was planned to link two airports with the urban core.

Development was permanently ceased five years later (1997) under a barrage of legal challenges. Comically labelled 'Thailand's Stonehenge', the abandoned project left more than 1,000 weathered concrete pillars later deemed useless and slated for removal. Factors contributing to the project's failure include government instability (a coup), the absence of a timeline and feasibility study, and wrangling among project partners. Across Asia, such stories about infrastructure development derailed by poor planning and corruption are common.

The challenge of overpopulation

Quality infrastructure service is a product of two factors. The first is a capacity to absorb innovation, particularly in an era of exponential scientific progress. Nevertheless, upgrading to accommodate new technologies is troublesome in the current political environment of short-run management. The leader who puts a shovel in the ground is rarely the one who cuts the ribbon. Announcing a project is cheap but following through is

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expensive, and no leader wants to preside over blown budgets and missed deadlines. Designing innovation-related scenarios into plans and construction is wise but costly; the public wants good service, soon, and cheap. In the long run, as John Maynard Keynes said, "we're all dead."

The second factor behind good infrastructure development is demand management. Smarter land use planning has been used to manage transport demand; conservation campaigns have been used to manage electricity and water demand; public health efforts manage hospital and service demand. All of these strategies strive to manipulate behaviour, but infrastructure in particular faces an additional challenge – overpopulation.

The idea of population control has few adherents. For example, China's one-child policy has recently been criticised for disrupting the country's gender balance. Academic arguments for controls are ridiculed for being neo-Malthusian and quaintly autocratic. However, population hyper-growth remains a critical obstruction to development, and is a bigger threat to Asia than to the West. Even the smartest systems cannot always accommodate over-flooded demand.

"EVEN THE SMARTEST SYSTEMS CANNOT ALWAYS ACCOMMODATE OVER-FLOODED DEMAND"

It is gravely impolitic for leaders to even mention the issue of overpopulation; indeed, the decision to have children is deeply personal, and for rural families a matter of livelihood. However, better healthcare has reduced the need to hedge against premature deaths by having many children. Also, technology-based agricultural productivity improvement has reduced the need to have more kids for labour. Do these advancements portend the end of the 10-child family?

The better question is whether families will adapt, or continue to have children out of tradition, societal expectations, and associated ideologies. The effectiveness of infrastructure is only as good as the choices of individuals, but behaviour often eludes the influence of public policy. As long as rural families continue to multiply and young people continue to migrate to cities looking for work, urban infrastructure will be in a permanent state of catch-up.

Contrasting procurement models for infrastructure development

Institutional reform has significant implications for Asia's infrastructure development. One example is devolution of fiscal autonomy, granting cities the power to more readily assume debt.

In China, Chongqing and other inland cities have rapidly upgraded infrastructure to stay ahead of surging demand. Chongqing's ambitious and interventionist local government aggressively invested in public transit, road networks, housing, and industrial facilities. The city's GDP growth rewarded this strategy, outpacing that of China as a whole.

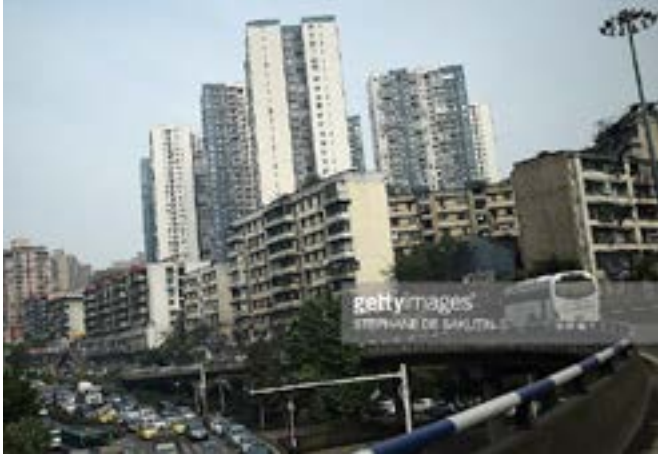
Although the so-called 'Chongqing Model' captivated the imagination of leaders and analysts, the city's municipal debt eventually ballooned to more than US$50 billion. Some estimates were much higher – equal to 100 per cent of the region's gross economic output. In a *Wall Street Journal* article, a Chinese government think tank analyst said of Chongqing's high-profile and ultimately disgraced former mayor, "Mr Bo was a bit too eager to succeed."

Infrastructure development efforts were well-founded given the city's growing population, but a risky financing model left taxpayers and the central government with a sizeable bill.

In Kaohsiung, Taiwan, port infrastructure was initially funded and developed by the government before gradually being privatised. The administrative merger between Kaohsiung's harbour and city government created new institutional space for coordinating investment and related growth policies.

In developing infrastructure, Kaohsiung exhibited comparatively more fiscal prudence than Chongqing, although the city was not free of financial struggles. Kaohsiung's MRT metro rail system descended into debt in 2010 and tepid demand plagued some stations, but operational and pricing adjustments, along with well-timed capital injections, eventually stabilised the system's finances.

These two cases illustrate that infrastructure success is dependent on the viability and sustainability of financing models. In Asia, this is a step that is often mishandled – with perilous consequences.



Finding a seat on the train

Asia has neither the resources nor the clean slate to simply bulldoze and replace legacy infrastructure every generation. This should be done haltingly and only under rarely favourable circumstances; it is not a strategy on which urban leaders can permanently rely. A two-pronged approach should be considered. First, creative planning must anticipate innovations and deliver infrastructure amidst existing systems and fiscal constraints. Second, governments must find a way to manage population growth.

One ride on India's commuter trains – with people lying on roofs and hanging off doors – would raise awareness. One attempt to cross the street in Hanoi during rush-hour – with thousands of motorbikes cramming even the sidewalks – would raise awareness. One afternoon in a 50-lane Chinese traffic jam, one hour waiting to board a subway during Beijing's peak commute, or one taxi ride through Jakarta would be evidence enough. Fluidly functioning infrastructure has become Asia's impossible dream. The costs of gridlock and overpopulation to both the economy and quality of life are rapidly escalating. There are simply too many people.

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