



Re-urbanisation stress

What is the future for developed cities as re-urbanisation stretches resources and infrastructure needs? Jim Lydotes, lead portfolio manager of the [Pinnacle BNY Mellon Global Infrastructure Yield Fund](#) looks at the next generation of cities and what it means for infrastructure investing.

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It looks like any other high-end apartment complex in Manhattan. But the differences are there. Decorated with multi-toned carpets to aid depth perception; open-plan areas for social activities; high-security areas for vulnerable residents, such as those with dementia. This is retirement in the city.

As the baby boomer generation ages, increasingly the idyllic countryside retirement is being replaced by city-based retirement, says Jim Lydotes, lead portfolio manager of the Pinnacle BNY Mellon Global Infrastructure Yield Fund. Some of the reasons for the move back into the heart of cities are their greater access to the arts, better healthcare and less reliance on the need to drive. It is this trend of western re-urbanisation that is adding to swelling city populations and in turn, increasing infrastructure demands and service needs.

Lydotes points out that back in 1800, just one in 50 people (c2% of the world's

population) lived within cities. Today three and a half billion people reside in an urban location and in little more than 80 years, by 2100, it is expected some 80% of the world's population will be city dwellers.¹

Cities are not necessarily physically growing in size, it is the numbers living in them that are swelling. This creates a plethora of issues and potential problems – from environmental to social.

In 2012, there were approximately 43 million Americans over the age of 65² and that population is expected to grow by more than 70% in little over a decade, meaning by 2030 some 20% of the US population will be older than 65. Seniors as a group are growing seven times as fast as the rest of the US adult population, they visit the doctor 2.5 times as much and spend five times more on health care, Lydotes says. “Seniors today also live longer and have more active lives than generations past. The desire to live in larger

¹ Smart Cities: Big Data, Civic Hackers, and the Quest for a New Utopia by Anthony M. Townsend.

²U.S. Census Bureau – The Baby Boom Cohort in the United States: 2012 to 2060. Issued May 2014.

collaborative communities and maintain active lifestyles will generate demand for alternative forms of living space.

“Hospitals, rehabilitation centres and assisted living facilities will be needed to service this ageing population. Unlike other sectors facing the rise of the digital age, real estate is a prerequisite. Much of the infrastructure needed for this tectonic demographic shift has yet to be built. As such, we are on the cusp of a construction buildout across the country that will facilitate the way our ageing population lives. For example, growth in the senior population will necessitate the need for a 30% increase in hospital beds by 2030.”

One of the resources that will be stretched by this trend is water. Lydotes points out that there is no operational leverage in water; each individual requires two litres of water to sustain life every day. “The more people push into cities the greater the amount of water we’re going to need to transmit into those cities. The regulation around that water infrastructure is going to be the determining factor in whether increased urbanisation can be supported.”

Ageing water

Lydotes notes the US has some of the worst and oldest water infrastructure of developed nations. Some 75% of the large pipelines supporting the US Northeast were constructed before World War II, he notes, adding that in New York City alone, more than eight million citizens rely on drinking water delivered primarily by two tunnels, one completed in 1917 and another in 1936.³ A

third tunnel has been under construction since 1970, he adds.

One of the main reasons for the underinvestment in water infrastructure in the US, he sees, is the ownership and regulatory structure of that resource. Lydotes says: “I live in a town of less than 20,000 people and yet it has its own water company with its own CFO, CEO, finance department and customer service department. That’s horribly inefficient.” In addition, he notes, municipalities are the ones in control, rather than the companies. Lydotes points out some 84% of all water infrastructure⁴ is controlled by individual municipalities, who decide infrastructure allocation. “Are they more likely to put money into replacing a pipe that’s buried under the ground or replace a school, bridge or road – an infrastructure asset people can physically see? I believe that allocation decision is often made the wrong way and has led to a mass amount of under investment in water infrastructure in the US.”

Chronic underinvestment has consequences. The US loses about 2.1 trillion gallons, or approximately 16% of treated water, from leaky pipes annually.⁵ Lydotes says: “How did we get into this position? To start, Americans spend about as much in aggregate on bottled water as they do maintaining their water supply, an astounding fact when you consider bottled water is 300 times more expensive per gallon than tap water.⁶ (Interestingly, according to some US consumer reports, almost half the bottled water sold in the US comes from a tap.)”

Repairing this system will require huge investment; the American Water Works Association estimates the current need will surpass US\$1 trillion over the next 25 years.⁷ The US needs to spend between US\$30bn to

³ New York City Environmental Protection, City Water Tunnel No. 3, accessed at <http://www.nyc.gov/html/>

⁴ American Water Investor Presentation, October 2016

⁵ David Schaper, As Infrastructure Crumbles, Trillions of Gallons of Water Lost, NPR, October 29, 2014.

⁶ Matthew Boesler, You Are Paying 300 Times More for Bottled Water than Tap Water, Business Insider, July 12, 2013.

⁷ American Water Investor Presentation, October 2016. For illustrative purposes only.

US\$40bn annually on water mains alone through the end of the decade,⁸ Lydotes adds.

Lydotes highlights the privatisation of the UK water system as a progressive solution and one that has had notable benefits, commenting that the quality of UK water relative to the price paid makes it one of the best in the developed world.

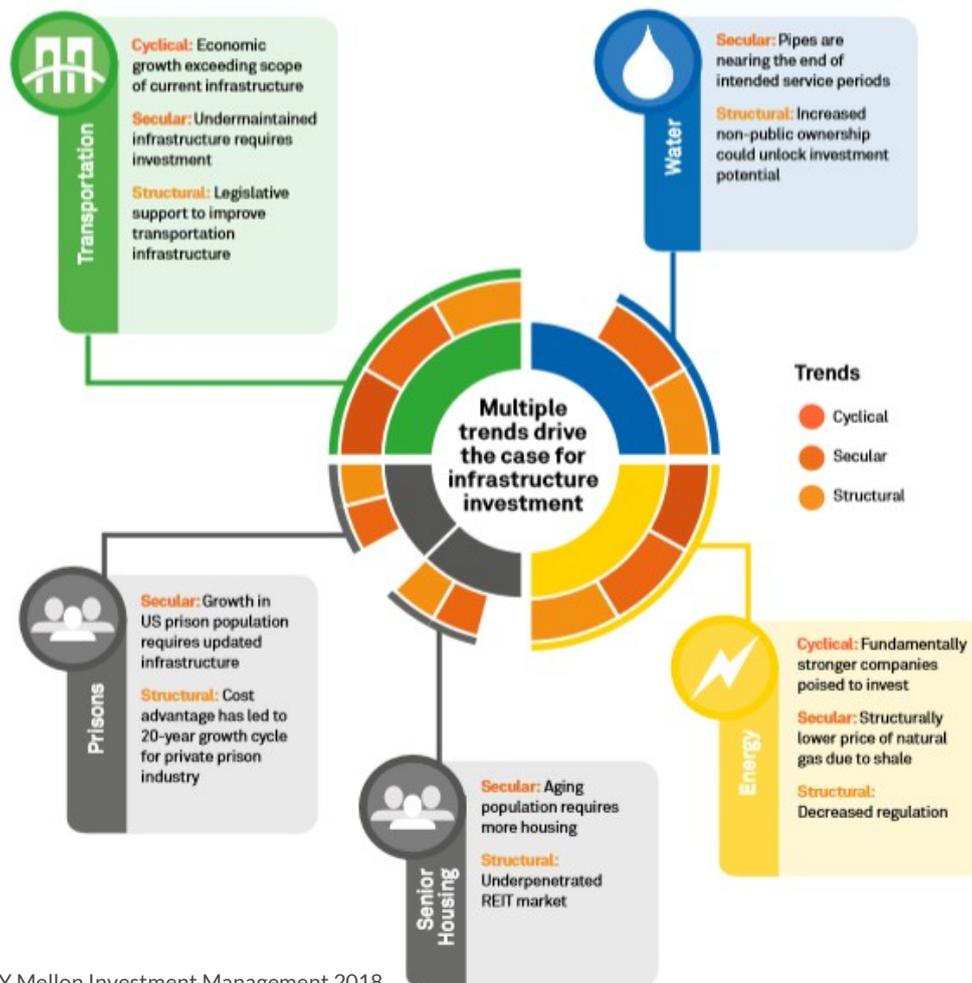
Focus on 5G

Another aspect of the re-urbanisation trend capturing Lydotes' attention is the move to 5G. "3G was about pictures, 4G was about video, 5G is going to be about connectivity. In the six years leading up to 2022 we believe we're going to see a tenfold increase in smart phone video data traffic, a fivefold increase in audio data traffic and likely a sixfold increase in social networking.

This consumption of data is leading to the push for 5G."

Lydotes points out that this increase in data consumption has so far been to the detriment of telecom companies as they've had to invest more and more into this infrastructure and yet haven't really been able to raise prices because people haven't been willing to pay for better quality.

On the other hand, the 5G network is going to be the backbone that drives drones, cyber security and autonomous vehicles. This, Lydotes believes, will enable telecom companies to adjust their pricing as people become more willing to pay for higher quality networks. "I think that presents a very real opportunity for some of these legacy telecom assets.



Source: BNY Mellon Investment Management 2018

⁸ American Society of Civil Engineers, Drinking Water: 6 billion gallons of treated water lost every day, p. 1

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