



# Emerging trends in infrastructure

2021 Edition

KPMG International

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# Foreword

In 2020, even best laid plans were hijacked by COVID-19. And the uncertainty of the pandemic still hangs all around us. But the world is already moving forward. Expect the infrastructure sector to emerge from the crisis with renewed vigor, fulfilling a key role as a catalyst to sustainable economic recovery.

For each of the past ten years, the KPMG Global Infrastructure practice has offered our perspective of the top ten emerging infrastructure trends for the year. Granted, we were not prescient enough to predict a global pandemic. But many of the predictions we made at the start of 2020 have evolved as we expected — if anything, several have been accelerated by the impacts of the pandemic.

Last year, we noted the need for increased resilience in infrastructure assets and networks; we warned of a further shift in the tides of globalization; we forecasted an uptick in the pace of progress towards sustainability; and we predicted a reorganization of risk priorities. All of these trends came to be.



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If we look back further, the cyclical trends become even clearer. Some infrastructure issues and trends have continued to evolve over the decade. In some form or other, we've been talking about sustainability, resilience, new funding models and public sector participation for most of the past decade. Yet that does not mean these issues have stagnated; quite the opposite — each of these trends have evolved so rapidly that their outlook becomes remarkably different with each passing year.

Other trends had shorter lives. For example, a decade ago, we talked about the rise of megaprojects; seven years ago we noted growing concerns around megaproject delivery capabilities; in 2020, we argued that 'small had become beautiful'. The full cycle appears complete.

This year, we have attempted to look past COVID-19 to identify the long-lasting trends that will influence the infrastructure sector over the next 10 years. Some have undoubtedly been shaped by the experience of a global pandemic. But our view is that, where COVID-19 defined 2020, it will be growth, sustainability and resilience that will define this year and this decade. The opportunities exist for the world to achieve great things. We believe this will be the year the world rolls up its sleeves and delivers on some of those opportunities.

As with previous editions, *Emerging trends in infrastructure 2021* strives to go beyond simply reporting the trends to instead offer our global perspective on how these trends are creating new opportunities and challenges for infrastructure players. In our predictions, we offer thoughts on how each trend will evolve, how infrastructure players will respond and the wider impacts on society, and we explore the interplay between the trends and the opportunities they create.

We recognize that the future may seem uncertain. But we are optimistic in our outlook and confident in our predictions. We hope this year's *Emerging trends in infrastructure* provides readers with clarity, confidence and inspiration.

To learn more about these trends, or their potential impact on your organization, we encourage you to contact your local KPMG firm or any of the contacts listed in this publication.



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# Trend 1:

Uncertainty  
creates planning  
complexity





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# Uncertainty creates planning complexity

**“This too shall pass”. This sentiment seems particularly apt when talking about the disruptions the world has faced over the past year. Much like during other epoch-defining events (like the Second World War), the future of the world remains shrouded in a veil of deep fog. Planning for the future has never been more challenging.**

What we do know, however, is that the current disruption *will* pass; the fog will lift. What we do not know is the extent or permanency of the disruption’s impact. How will the way people travel and vacation change? Will they continue to avoid social interactions in favor of digital experiences? How must infrastructure adapt in order to support potential new ways of living and working?

When building assets with lifecycles that span decades, this level of short to mid-term uncertainty and reduced forward visibility can be particularly challenging. Being able to understand user trends is important for making the right infrastructure investment decisions, but those trends are now in flux. And being able to distinguish the permanent changes from the transitory is not easy.

We may all agree that we should ‘build back better’, but what exactly does that mean? And what investments will allow us to achieve that goal?

In an effort to answer these questions, infrastructure planners have been considering a bewildering range of different scenarios on their long term planning (Transport for London, for example, agreed to a wide-ranging review of their future financial position and financial structures in return for nearly USD2.2 billion of subsidy from the UK Government in May 2020).<sup>1</sup> Scenarios under consideration have ranged from the potential for a continued shift in the value proposition of cities (see [Trend 2: Cities rethink their value proposition](#), for more on this) through to what might be required to support a remarkably strong rebound.

The problem is that one scenario may suggest a reduction in mass transit investment while another will point to a return to previous demand trajectories requiring significant capacity enhancements. And both seem just as plausible. What do you do?

The temptation may be to wait until more certainty can be found. But that will only exacerbate the infrastructure deficit and leave countries and jurisdictions with suboptimal infrastructure to support society and drive economic growth. Waiting, therefore, is not a viable option. Choosing the right actions for the future, however, requires strong vision, leadership and — ultimately — consensus.

In the absence of clarity, infrastructure owners and planners are now trying to identify ‘no regret’ investments that align to their existing long-term plans but allow for increased flexibility and agility to meet the rapidly evolving needs of business and society.

Over the coming year, we expect infrastructure planners, operators and developers to start looking for ways to enable a much more nimble and flexible approach to infrastructure planning, development and delivery. This will be particularly difficult in today’s highly-politicized 24/7 media environment. Traditional approval structures and processes will be challenged.

Indeed, our view suggests that the infrastructure sector will need to get used to operating within a more dynamic and evolving environment. As we first suggested back in 2016, infrastructure owners and planners will want to learn lessons from the technology sector where the leaders continuously reinvent, recalibrate and refocus based on evolving market conditions; translating that mentality into a world of real, fixed assets may be a challenge, however.

Don’t expect the fog of uncertainty to dissipate in 2021 (it may get even thicker). But do expect to see infrastructure owners focus on enhancing asset utilization and optimizing performance as a way to better ‘sweat’ their assets.

Infrastructure planners will also need to focus much more on leveraging technology (such as using digital twins to support better planning through simulations), data and analytics (leveraging Internet of Things technologies for better operations and maintenance, for example) and decision-making tools. Doing so will help infrastructure planners get more from their assets and enable them to better navigate uncertainty and prepare for a future characterized by changing dynamics, risks and opportunities.

<sup>1</sup> <https://www.gov.uk/government/news/government-grants-transport-for-london-funding-package>



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# Trend 2:

## Cities rethink their value proposition





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# Cities rethink their value proposition

**W**hat makes a city an attractive place to live, work and play? In the past, it was largely the ‘network effect’ — masses of people, sharing services, assets, culture and ideas in a dense web of interactions.

Now, however, it seems that the physical network effect of the city is comingling and integrating with digital network effects. And this is forcing cities to radically rethink their value proposition. While urban centers will continue to serve as hubs of economic activity, it is becoming clear that — in a ‘live, work, play’ society — the role played by central business districts (CBDs) is changing.

The need for some form of reinvention is looming. Nobody yet knows how long term social and work patterns will evolve. What is clear, however, is that people have become much more focused on their time, safety and convenience. And that, enabled by digital technologies, has created very different needs and expectations.

Individuals will want different things (often depending on their age bracket). Some are more than content to return to a world of hour-long commutes, in-person office meetings and day-long trips to the shopping districts. Others are looking for what is being called a ‘15-minute city’; a place where people can access everything they need to live, work and play within 15 minutes of their home. Many are asking themselves how close they must live to the city center in order to enjoy all of the benefits that flow from it.

Cities will also likely react differently to these changing pressures. In some cases, we expect cities to embrace the 15-minute concept wholeheartedly and from a ‘place-making’ perspective (with appropriate changes to zoning and development requirements). A handful of innovators may even choose to allow the traditional central business district concept to dissipate almost entirely, in favor of distributed hubs and self-sufficient ecosystems (some technology companies have already gone completely virtual for the foreseeable future). Others, however, may prefer to try to stay as they are. Multiple paths are diverging in the woods; cities need not select just one.

Smart, digitally-enabled cities will also undoubtedly play a role, helping government evolve the urban environment in order to deliver a better, cleaner and more efficient quality of life for its citizens.

While this trend has certainly been accelerated by the COVID-19 pandemic, the reality is that many cities had already been moving towards greater use of live/work development concepts for years. The recent rise of shared workspaces in suburban and residential areas has brought work much closer to the home and has provided workers (white collar ones, for the most part) with much desired flexibility.

Until very recently, cities acted as magnets, pulling people, capital and ideas inwards. How cities respond and adapt to the multipolarity catalyzed by the pandemic remains to be seen. While a new equilibrium is potentially a long way off, we believe cities will start looking at alternatives to nurturing a central business district, as a way to help optimize transport and other infrastructure needs. For instance, Singapore has already envisaged a 2nd CBD<sup>2</sup> to offer a better live, work and play environment through lively and vibrant mixed-use business districts while ensuring optimized infrastructure development for the city state.

Over the coming year expect urban planners and city infrastructure leaders to begin reassessing the infrastructure needs of their cities to understand not only how they deliver value to citizens today, but what citizens will consider value-adding in the future.

Those who build consensus through vision and leadership will also then start to create much stronger links between the planning system itself and the infrastructure development proposals being created; expect the debate around regional versus city growth to become reenergized.

<sup>2</sup> <https://www.mnd.gov.sg/mndlink/2017/Nov-Dec/plans-for-singapores-second-cbd-unveiled.htm>



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# Trend 3:

Borders become  
real again





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## Borders become real again

**2020 was not a good year for the forces of globalization. Coming into the year, the situation already seemed bleak – nationalistic policies and trade wars had started to have an impact on goods flows; migration was turning into a political (almost tribal) issue; renewed focus on ESG considerations began to have an impact on peoples’ purchasing decisions.**

The months that followed knocked the wind out of globalization’s sails. With borders for people all but shut and international travel discouraged, migration fell to an all-time low. At the same time, supply chains became entangled (see [Trend 4: Infrastructure supply networks evolve](#), for more on this), sending waves of disruption across the ports, airports and logistics sectors.

Interestingly, the impact on ports, airports and logistics companies has been uneven. The aviation and tourism sectors have been the hardest hit by the pandemic. Yet, while passenger volumes plummeted, some were able to benefit from the increasing demand for air cargo services, allowing a welcome opportunity to shore up revenues and better sweat assets.

As markets seek to define the ‘new normal’ in international travel, we expect to see governments and aviation authorities start to collaborate to harmonize regulation and standard operating procedures across countries. Much like the historic loss of trust experienced by the industry during the spate of hijackings in the 1970s and the period following the 9/11 terrorist attacks, the industry will need to find ways to rebuild confidence in air travel.

Ports also saw a drop in trade, reduced volumes and congestion as supply chain networks became disrupted. In many cases, support from port authorities, governments and policy makers has helped. But the sector is heavily dependent on end-user industries and trade so, depending on the prime commodities they handle and their location in the supply chain network, some ports may take two to three years to revert to pre-COVID levels.

Airport and port operators have recognized the need for technology and automation as a way to create greater resilience and stronger response mechanisms (see [Trend 4: Infrastructure supply networks evolve](#)). Over the coming year, expect to see greater investment into digital and smart ports, airport automation and the development of institutional mechanisms for improving collaboration between supply chain actors.

Given the magnitude of the disruption and the critical role played by ports and airports in the global supply chain, we expect to see stakeholders (including governments, regulators, investors and service providers) start to place a greater focus on driving enhanced financial and operational resilience across their assets and networks.

Indeed, we believe this year will see port and airport operators start to consider the art of the possible — looking for ways to unlock value from data, contributing to a greener and cleaner environment and planning for an eventual return to stable growth.



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# Trend 4:

## Infrastructure supply networks evolve





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# Infrastructure supply networks evolve

**It wasn't just goods and manufacturing supply chains that experienced massive disruption as a result of the pandemic. So too did the world's infrastructure and construction companies. Supply of raw materials became disrupted. Equipment and labor became stuck behind borders. Project teams were either isolated on site or quarantined far away from their jobs.**

In very short order, normalcy started to return to supply chains. Raw materials once again started to flow. Equipment began to move across borders (albeit often without their operators). Labor, however, remains constrained — workers are still largely confined by regional travel restrictions; operations and project teams are still often isolated.

Perhaps not surprisingly, infrastructure and construction supply chain managers remain deeply concerned that — any day now — their suppliers may go back into lockdown and the flow of critical goods may be delayed. Others are looking past the current pandemic and realizing there are a wide range of concerning risks still hovering on the horizon.

Over the coming year, expect to see the pace of change in infrastructure and construction supply chains pick up as organizations invest in resiliency. We expect to see developers start to think more broadly about the factors that influence their supply strategies. In some cases, this will likely mean a strong shift towards re-shoring and near-shoring. And it will almost certainly mean that inventory levels will rise considerably (offering opportunities for new suppliers and smaller suppliers to grow).

The implications of this trend for the infrastructure sector will be three-fold. First, expect to see significant investment and development going into strengthening regional, national and local supply chain and logistics infrastructure. This will put pressure on transport and logistics providers (including ports, airports and railways) to start to transform their operations, cost structures and business models in order to remain relevant and flexible in the new environment.

Secondly, we expect to see a growing shortfall in some key capabilities as global talent flows remain restricted. Senior project managers will be in particularly short supply. Infrastructure and construction leaders will need to rethink how they source and retain these skills in a new work environment. Many will need to consider how they might source talent from within their borders.

Finally, you can also expect to see infrastructure developers and operators start to remap their supply needs and networks. Some may start to look to new technologies (such as 3D printing) to help reduce their reliance on niche suppliers. Others will likely re-shore and nearshore many of their own supply lines and networks. Expect owners to seriously examine the supply risks inherent in any bid.



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# Trend 5:

## New finance floods into the market



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# New finance floods into the market

**The past few years have brought a flood of new financing options to the infrastructure sector. And that has finally put infrastructure financing — particularly in the emerging markets — onto solid footing.**

The wellsprings of the flood are varied: a sustained period of low interest rates; the emergence of institutional capital targeting infrastructure as an asset class; the rise of local currency financing; the growth of sustainable investment vehicles. Together, they all add up to a swell of new financing options becoming available to infrastructure projects.

More innovation is coming. Some commercial banks, for example, are now working to monetize project finance debt into structured bonds (with first loss protection) for institutional capital. Others are starting to link the cost of borrowing to sustainable performance parameters. Green financing is on the rise.

The ongoing recycling of capital through the divestiture of operating infrastructure assets should also provide additional impetus to unlock capital markets and attract long-term institutional investors seeking investment-class annuity returns.

Indeed, our view suggests we are now on the cusp of seeing a flood of new capital flow in from pension funds and insurance companies who, now that the risks are better understood, are looking aggressively at brownfield assets and greenfield projects for increased returns.

However, the flip side of the coin is that lower interest rates and increased funding options also means that well-structured projects in emerging markets are attracting investors with much lower return expectations.

For well-prepared governments with a strong and structured pipeline and well-structured deals, the news couldn't be better. The ability to tap different sources of funding, including institutional capital and sustainable funds, over the top of local and regional banks and capital markets, should lead to a wealth of well-priced capital to compliment government finances.

Over the coming year, expect to see new investors gravitate towards infrastructure vehicles that provide sustainable inflation-protected long-term annuity returns, particularly as treasury rates remain low.



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# Trend 6:

Toward a greener,  
fairer rebuild





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# Toward a greener, fairer rebuild

**The challenges that the pandemic delivered to society are obvious. But there have also been a few silver linings: people have seen how quality of life can be improved by cleaner air and streets reclaimed from the roar and congestion of cars; and inequalities and economic imbalances have been brought to the public consciousness.**

Not surprisingly, society is now calling for a greener, fairer and more sustainable rebuild of the world economy. They want this experience to have led to something positive. This new reality is being seen as a clean slate; an opportunity for a new form of equitable and sustainable growth.

On the environmental side of the ESG equation, at least, governments clearly agree. And many have been making significant policy announcements to support that agenda. More than 22 regions and 450 cities have signed up to the UN's *Race to Zero* campaign, aiming for zero emissions by 2050<sup>3</sup>. Major economies are also making commitments: Japan intends to achieve net zero by 2050<sup>4</sup>; China by 2060<sup>5</sup>. The EU's Green Deal signals the block's intention to also reach the goal by 2050<sup>6</sup>. President Biden's early promise to spend up to US\$2 trillion on green infrastructure and energy is also encouraging<sup>7</sup>.

The idea that the infrastructure sector should be putting environmental considerations front and center is already embedded in mainstream consciousness. Indeed, infrastructure may have the most critical part to play in driving a green recovery. The reality is that the construction and use of infrastructure is responsible for around 70 percent of all carbon emissions, largely through the energy and transport sectors, and the production of materials such as cement and steel<sup>8</sup>. So it is not surprising that, over the last year, we have seen the infrastructure conversation dominated by net zero. Expect this to intensify even further.

At the same time, we are seeing a growing trend towards investors prioritizing sustainable assets. BlackRock, one of the world's largest global asset managers, last year announced that they would be assessing ESG metrics as part of their investment approach across all portfolios<sup>9</sup>. Others, including the Canada Pension Plan Investment Board have taken similar steps<sup>10</sup>. And while, for now, that does not mean investment in carbon-heavy assets will stop, a recent report by Goldman Sachs estimates that hurdle rates for renewables are now just 3 to 5 percent, versus 10 to 20 percent for hydrocarbon developments<sup>11</sup>.

<sup>3</sup> <https://unfccc.int/climate-action/race-to-zero-campaign>

<sup>4</sup> <https://news.un.org/en/story/2020/10/1076132>

<sup>5</sup> <https://www.iea.org/commentaries/china-s-net-zero-ambitions-the-next-five-year-plan-will-be-critical-for-an-accelerated-energy-transition>

<sup>6</sup> [https://ec.europa.eu/clima/policies/strategies/2050\\_en](https://ec.europa.eu/clima/policies/strategies/2050_en)

<sup>7</sup> <https://www.nytimes.com/2020/07/14/us/politics/biden-climate-plan.html>

<sup>8</sup> <https://blogs.worldbank.org/ppps/low-carbon-infrastructure-essential-solution-climate-change>

<sup>9</sup> <https://www.blackrock.com/ch/individual/en/themes/sustainable-investing/esg-integration>

<sup>10</sup> <https://www.cppinvestments.com/public-media/headlines/2020/cpp-investments-publishes-2020-report-on-sustainable-investing>

<sup>11</sup> <https://www.goldmansachs.com/insights/pages/gs-research/carbonomics-green-engine-of-economic-recovery-f/report.pdf>



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The economics underpinning the market have also rapidly changed. Recent estimates suggest that — in countries that represent two-thirds of the population — renewable energy is now the cheapest form of power<sup>12</sup>.

However, carbon reduction, while critical, is only one part of the ESG agenda. Indeed, to deliver on the needs and expectations of society, governments and infrastructure players will want to start acting on a range of other fronts as well.

The social lens of ESG is particularly challenging for an industry that frequently features remote and arms-length operations and long, fragmented supply chains. Over the next few years all businesses will be expected to focus more on employment conditions — on training, healthcare and fair pay for example — and to be able to provide assurance that no part of their supply chain involves child labor or modern slavery. Parts of the infrastructure sector have a long way to go to bring their standards up to those of the best.

Fully embracing diversity remains a key objective for the industry too. Many now recognize that a diversity of views — across race, gender identity, ability and social status, for example — delivers

enhanced resilience, better decision-making and stronger community participation. Planners and investors want to know their assets are serving a diverse population, and that their assumptions are not relying on the misconception that ‘one size fits all’ when it comes to infrastructure.

Governance will be of concern too. Transparency and probity are now set to become the ‘table stakes’ across all businesses. The days when parts of the construction industry were associated with money laundering and tax evasion needs to become history. There is an opportunity for the best global contractors to distinguish themselves through the rigor and transparency of their disclosure.

The combination of investor pressure, improving economics for sustainable infrastructure, and rapidly changing societal attitudes add up to the perfect conditions for a golden, or rather green, era for infrastructure. And all those working in the sector can be proud to be part of the movement that will safeguard the future of our planet.

Over the coming year, we expect to see the infrastructure agenda be powerfully influenced by a focus on environmental, social and governance outcomes aimed at ensuring actions are contributing to a fairer, more inclusive and more equitable world. We call on infrastructure developers and policy makers to respond; the world will be a better place for it.

<sup>12</sup> <https://www.bloomberg.com/news/articles/2019-08-27/solar-wind-provide-cheapest-power-for-two-thirds-of-globe-map>



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# Trend 7:

## Resilience jumps up the agenda



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# Resilience jumps up the agenda

**I**n January 2020, when the World Economic Forum released its assessment of the top risks for the year, a global pandemic barely registered. Instead, the risk registry was dominated by environmental risks. And while the pandemic may have taken the spotlight in recent months, governments and asset owners have increasingly focused on the resilience of their infrastructure to climate and weather-related risks.

Interestingly, we are also seeing increasing pressure from activist investors. In November 2020, for example, REST (a large Australian Superannuation fund) settled a claim that alleged the asset manager wasn't doing enough to protect their assets from climate risks<sup>13</sup>. The case suggests investors may have a fiduciary duty to take steps to mitigate climate risks and enhance resilience.

Our view suggests that investors and governments will soon be requiring the mandatory reporting of assets' climate risk exposure. And they will be expecting to see robust and thoughtful resilience plans and activities that respond to a range of risks.

More recently, however, the definition of resilience has broadened. The pandemic demonstrated that some infrastructure (health services and fiber connectivity, for example) can come under significant strain during unexpected demand fluctuations. Many infrastructure players have started to ask whether their assets could react quickly to other sudden shocks.

The problem is that — for the most part — resilience risk is still not adequately priced into infrastructure contracts. And while organizations such as the World Economic Forum's Coalition for Climate Resilient Investment (CCRI) are making great headway in helping raise awareness of the need for better pricing of climate risk, the reality is that the funding of resilient investments will continue to be a challenge as governments and regulators seek to minimize consumer costs.

That being said, we believe the pandemic has created a seismic shift in the way governments and asset owners look at resilience planning. No longer are decisions being made solely on the basis of probability and expected cost, but rather on ensuring that a country or jurisdiction's essential services continue to operate under all scenarios.

Over the coming year, expect infrastructure owners, planners and regulators to start asking difficult questions about the resilience of their assets in the broadest sense. Those without an existing resilience plan should expect a grilling.

<sup>13</sup> <https://www.abc.net.au/news/2020-11-02/rest-super-commits-to-net-zero-emissions/12840204>



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# Trend 8:

Delivering  
securely in a  
digital world





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# Delivering securely in a digital world

**W**e have entered an era of hyperconnectivity. Those businesses unable to exploit the new digital economy will quickly fall behind. And the pressure on governments is rising to provide, secure and utilize the foundations for a hyperconnected world.

Let's start with enablers of a digital economy — things like education (sic. digital literacy), access to the internet (either via broadband or mobile), data centers, mobile technologies and enabling apps (such as secure payment services, cashless ticketing, etc.). These are some of the prerequisites for supporting a digital economy and society. Access to these fundamentals remains uneven across the globe — the digital divide continues to deepen. And they are all heavily influenced by digital infrastructure investment.

Then consider the changes that are required to support digital workforces and deliver services via digital channels. In markets and regions with strong digital capabilities, many critical public-service infrastructure owners — water, electricity and public transport providers, for example — took heroic steps to ensure they were able to continue operating remotely during the lockdowns; now they need to find ways to institutionalize those approaches and reduce their complexity and costs.

The rollout of 5G will be fundamental to service delivery in our newly hyperconnected world. Some estimates suggest that 5G could unlock around US\$4.3 trillion<sup>14</sup> in value globally (though not all at once, not in the same way, and not in all sectors at the same time). And while the adoption of 5G will largely be enterprise-led and centered (at least at first) on key locations such as university campuses and large sports arenas, our view suggests it will be the key to unlock the inherent potential of technologies such as Big Data, the Internet of Things, Artificial Intelligence, Augmented Reality and future mobility.

Connectivity technologies like 5G and Cloud will also be central to driving innovation and value in infrastructure. For smart cities and venues, for example, hyperconnected infrastructure can enable space and energy to be fully optimized, smart waste and water management to be implemented, and connected mobility solutions to be integrated. It can help utilities secure their smart grids and deploy sustainable energy and dynamic asset management systems. It is critical to hastening the early development of fully autonomous vehicles.

Over the coming year, expect the focus on connectivity to sharpen significantly. Very soon, governments are going to start to recognize that they must address the growing deficits in their digital infrastructure. And they will be looking at enhancing their connectivity (and the cyber security of their assets) in order to drive growth in both their economies and their balance sheets.

<sup>14</sup> <https://home.kpmg/xx/en/blogs/home/posts/2019/04/unlocking-the-value-of-5g.html>



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# Trend 9:

Government gets permission to transform





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# Government gets permission to transform

**S**ocial expectations have been reset. New ways of working are rapidly being adopted. Governments find themselves with a once-in-a-lifetime opportunity to reform and reimagine the way they interact with and serve citizens and businesses. It has been several generations since public officials have been afforded such a wide writ to effect change. They should not be shy about using it.

The disruption to government services and social infrastructure experienced during 2020 demonstrated that radical and rapid change in service models is possible, but must also be thoughtful. Consider, for example, how most education systems rapidly went online, and how healthcare systems embraced virtual and distance care delivery — in both cases suddenly making digital infrastructure more critical to the quality of their service than buildings. Yet, at the same time, it quickly became apparent that many of those at the margins of society were being locked out of the new delivery channels.

This year, we expect to see government officials and infrastructure leaders assess the extent to which they can make some of these pandemic-driven changes to service delivery more permanent. Some will take this type of ‘creative disruption’ mindset further. Radical change is now possible and — in many cases — expected. The opportunities and the obligations afforded to government right now are immense.

These could range from rethinking current mobility strategies (are expensive networks of fixed assets really necessary?) to fundamental redesign of supply chains. We are also likely to see new partnerships form, involving public-private service delivery, that delve deep into areas once considered core government services (see [Trend 10: Governments look for partners](#) for more on this).

Data will be critical to imagining and implementing radical change. Governments and infrastructure planners will need

to be clear about what communities ultimately want in terms of services and outcomes, not assets. And that will require them to have a clear view of their users’ demand patterns and preferences — historic, current and future.

At the same time, infrastructure planners and owners must be willing to break free from the norms. Mobility services can be delivered through privately-operated platform apps; public facilities do not need to serve just a single purpose; and assets do not need to be owned by the government for a service to be delivered.

One clear challenge will be around privacy. The mixed reception of COVID-19 ‘track and trace’ apps illustrates how societal privacy concerns could impede radical change in infrastructure and government service delivery...or not, depending on the culture and jurisdiction. With governments now privy to a growing amount of citizen data, many are starting to take a much closer look at their national privacy controls. Expect privacy considerations to play a much greater role in infrastructure decision-making going forward.

In the emerging markets, multilateral development banks (MDBs) will also likely seize this opportunity to help drive change. Some will play a catalytic role in helping transform the sector. And their participation will help ensure change is achieved in a manner that is acceptable in the short term and sustainable in the long term.

This year expect to see governments and MDBs start to embrace their new-found ability to make radical change. Infrastructure owners and governments currently have an unprecedented opportunity to rethink how they serve their stakeholders. We hope these institutions are up to the task of driving the innovation and experimentation that will need to emerge over the coming year.



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# Trend 10:

Governments look for partners



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# Governments look for partners

**G**overnments increasingly see that the private sector can be a trusted delivery partner. And, as a result, a range of new opportunities for private sector participation are emerging. Governments and citizens should be delighted.

For years, we have been watching the private sector take a more active role in the delivery and operation of infrastructure assets and services. From basic operate contracts through to complex investment vehicles, private sector players have taken on a growing role in financing and delivering government infrastructure.

Now, however, that relationship is evolving. Looking beyond traditional financing partnerships, many governments are now striving to create partnerships that give them access to enhanced expertise and capabilities.

Consider, for example, the global partnerships that underpinned the rapid development and distribution of multiple COVID-19 vaccines. Or partnerships like that between NASA and SpaceX to bring people and resources into orbit.

The relationship is also deepening. In the emerging markets, we are starting to see a significant drive towards the recycling of public capital through the privatization of existing government assets. Increasingly, governments and investors are starting to look at partnering on greenfield assets as well. The range of opportunities for partnership are growing.

Tied to the unprecedented permission to reform (a trend we discussed earlier — [Trend 9: Government gets permission to transform](#)), many governments are now also starting to think more critically about whether they really need to be directly delivering all the services customers demand through government assets and human resources. This approach of breaking the chain between the need to own assets and the delivery of services is leading many governments to reconsider what they can outsource and oversee and what must remain within their direct control. They are looking to the private sector to fill that gap. Public accountability will remain paramount and procedural probity a must. But, with sound judgment, much will be possible.

Over the coming year, expect to see some governments start to reconsider the role the private sector plays not just in asset delivery, but also service delivery. Increasingly, this will be evident at the regional and sub-sovereign levels as municipal governments seek to leverage private sector expertise and technological innovation into areas such as waste, water, land management and e-governance.

We expect that these new partnerships will be driven by innovation and the desire to deliver more to stakeholders. The outcome should be improved value for users and government alike.



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