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New Infrastructure Imperatives Emerge

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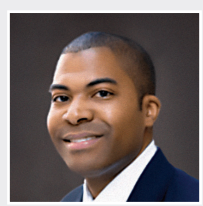

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Infrastructure: New Imperatives Emerge was listed as the #5 issue in the 2021-22 Top Ten Issues Affecting Real Estate® by The Counselors of Real Estate®.

The COVID-19 pandemic, climate change, and heightened societal interest in social and economic equity have redefined infrastructure imperatives beyond significant ongoing necessity for improved roads, bridges, airports, ports, mass transit, and other traditional infrastructure needs.

While our infrastructure focus in the 2021-22 Top Ten Issues Affecting Real Estate is on some new infrastructure imperatives, the need for enhanced investment in all areas of infrastructure remains high if we are going to maintain our strong economic competitive position. The American Society of Civil Engineers (ASCE) gives U.S. infrastructure a score of C-, classifying it as "poor" and "at risk," while the World Economic Forum's Global Competitiveness Report ranks the U.S. 13th in the world.

The ASCE also estimates our infrastructure funding "gap" in 2021 at $2.6 trillion, up 24% from 2017.[1] Not only is public safety at risk from failed water systems, roads, dams, and other shortfalls, but the McKinsey Global Institute (MGI) estimated that fully closing the physical infrastructure gap could translate into 1.2 percent, or 1.5 million, more jobs across the economy. [2]

The U.S. spends only 2.3 percent of GDP on infrastructure, while European countries spend 5 percent on average and China spends about 8 percent."[3] Despite ongoing needs, and new crisis needs, public (Fed, State and Local) infrastructure spending has fallen from 2.7% of GDP in 1980 to 2.3% in 2017, averaging 2.48% during that time period. [4]

THE IMPACT OF COVID-19 PANDEMIC ON INFRASTRUCTURE NEEDS

The COVID-19 pandemic has created emergency infrastructure needs in broadband access, supply chains, and health care systems.[5]

It has changed the way we live and work making broadband access a necessity. Medicine, shopping, school, work, government services, entertainment and most other aspects of life have accelerated their movement online. Even as the pandemic eases, full access and participation in our society in the future will require enhanced broadband access. This access will also provide society substantial flexibility to respond more effectively to future pandemics, disasters, and other events.

Broadband infrastructure investment will also address significant economic and social inequities in broadband access. Access is uneven and a source of present and future economic disadvantage. In 2019, Microsoft released a study showing that 162.8 million people were not using the internet at broadband speeds, a far higher figure than the 25 million the FCC estimated.[6]

The changes in how we access our products and services have radically changed supply chains and related infrastructure needs. New manufacturing, transit, delivery, information technology, and physical assets are needed to shore up the supply chains to reduce risk and promote business success. For example, in the first quarter of 2020, a shutdown of the Chinese manufacturing ecosystem caused 94% of Fortune 500 companies to report supply disruptions, with losses in the retail sector alone totaling $700 million.[7]

The drastic increase in last-mile deliveries to homes and businesses has also required businesses to create massive delivery systems, changed inventory storage and distribution requirements, and put significant demands on information systems. Automation, optimization, supply chain strategy, transparency and visibility are seen as the most important infrastructure areas to invest in the future.[8]

COVID-19 also exposed weaknesses in our healthcare system. This is not surprising as 40,000 jobs at state and local public health agencies have been eliminated since the 2008 recession and federal funding for emergency preparedness and response programs administered by the Centers for Disease Control and Prevention has been slashed by 50% over the past decade. Funding for our Strategic National Stockpile and Hospital Preparedness Program has declined 50% from 2004 to 2020.[9]

More healthcare infrastructure investment is needed in all these areas as well as improved information systems, physical structures, and organizational structures to reduce risks of failure in future epidemics and address social and economic disparities in healthcare access that were magnified during the COVID-19 crisis.

Real Estate Implications of COVID-19 Related Infrastructure Investments

Business and public sector service models increasingly require customers to have broadband and know-how to work online. Residential real estate buyers or renters will either blackball, or highly discount, properties with mediocre or limited broadband service. Broadband is no longer an amenity, but a minimum requirement, of all real estate, either by customer demand or government fiat.

Changes in supply chains as home or business delivery becomes an even more predominant way of receiving products and services will require real estate property owners to adapt their buildings and access/egress to address changes. Governments that anticipate changing volumes and types of transit on streets, parking requirements, and even zoning ordinances to address last-mile delivery needs will be rewarded. Real estate owners might also work together, independent or in partnership with government, to address these needs.

Healthcare infrastructure will be key in determining public health and safety in a community, increasingly important to real estate location decisions, especially for the increasing number of elderly people. Healthcare investment is also a huge center of job creation in the future, so communities fighting government and large private health care providers for their investment will benefit both in jobs and public safety. Many owners will need to update their ventilation systems and address a whole host of building health-related issues identified in certification standards like the WELL Building Standard.

THE IMPACT OF CLIMATE CHANGE ON INFRASTRUCTURE NEEDS

Climate change impacts infrastructure in two primary ways. First, governments and businesses are responding to future climate change by electrifying and promoting renewable energy. Second, governments and businesses are investing in climate resilience and adaptation in response to ongoing weather-related disasters.

Electrification and Renewables Infrastructure Investment

Governments are reducing carbon use by both promoting electrification of the transport sector (electromobility) and renewable energy.[10] All 41 nations in the Organization for Economic Co-operation and Development (OECD) in the year ending March 2020 showed electricity use fell by 3.6%, but coal fell by 21.6%. Solar grew 15.6%, wind by 4% and gas by 2.7% (almost all in North America). Electro-mobility has had a growth rate of over 40% per year in the past decade, with predictions for how quickly the internal combustion engine will be phased out of new vehicles now coming down into the 2020s.[11]

As electrification and renewables increase, significant new infrastructure investment is needed in the electric grid—including recharging hubs, batteries, information systems, cyber-security, transmission and distribution lines, as well as electric vehicles, buses and rail cars. Additionally, buildings, which consume about 40% of total energy use, and water systems, which can represent 30% to 40% of a municipality's energy bill, and up to 4% of total country energy use, need to be made more energy-efficient.[12]

Climate Resilience and Adaptation

Climate-resilient infrastructure is planned, design, built, and operated in a way that anticipates, prepares for, and adapts to changing climate conditions. Climate-resilient infrastructure should also be able to withstand, respond to, and recover quickly from climate-related disruptions.[13]

Extreme weather events—hurricanes, floods, droughts, and wildfires—have been increasing in number and cost in recent years. The Intergovernmental Panel on Climate Change, in its Fifth Assessment Report, concluded: "*Many climate stresses that carry risk—particularly related to severe heat, heavy precipitation, and declining snowpack—will increase in frequency and/or severity in North America in the next decade. Together with climate hazards such as higher sea levels and associated storm surges, more intense droughts, and increased precipitation variability, these changes are projected to lead to increased stresses to water, agriculture, economic activities, and urban and rural settlements.*" [14]

Climate resilience and adaptation infrastructure is not new, but in 2021 it has taken on an even more important role as federal support for such efforts has increased to match the significant efforts underway at the state and local level. Over half of the 50 largest cities in the U.S. and 33 states have adopted climate action plans that address climate resilience and adaptation.[15, 16]

With the 2020 Atlantic hurricane season the sixth-worst in the last 50 years, devasting wildfires around the world, and forecasts of increasingly severe extreme weather events in the future, climate-related infrastructure has taken on paramount importance for many cities and states. These investments are also supported by evidence that has found that every dollar invested in federally funded pre-disaster mitigation saves society $6.[17]

Real Estate Implications of Climate Change Infrastructure

Electrification of cities and building efficiency will become the new norm. Real estate owners that get out in front of these changes will profit and reduce costs of adaptation. Cities and neighborhoods that work to encourage electromobility will be prime investment locations as tenants and their employees move to electric vehicles, bikes, scooters and other modes of transit. Cities and neighborhoods that adopt electric buses, rail and other forms of mass transit will be cleaner, quieter, and less polluted. Property owners located near charging hubs or that provide charging opportunities will be rewarded.

Real estate owners and tenants must also be ready to ramp up energy efficiency and renewable energy, particularly solar, building off of initial efforts made in recent years. Staying current on new technologies, upcoming regulatory changes, subsidy programs, and other incentives will be key to maximizing success. Tenants and governments will, in most cases, reward action.

Climate resilience and adaptation infrastructure investments will likely have an even greater impact on real estate owners. Tenants, homeowners, insurance companies, and other customers have increasingly good access to easily available information about the weather-related risks a property faces. Local climate action plans and a myriad of online services enable homeowners and potential tenants to examine flooding, wildfire, and storm risks now and into the future. While many coastal locations have the most significant problems, no area of the country is immune. Cities and building owners that manage these issues well will profit. Due diligence and risk management are changed forever.

THE IMPACT OF SOCIETAL FOCUS ON SOCIAL AND ECONOMIC EQUITY ON INFRASTRUCTURE

There is growing activism, understanding and acknowledgement of how historic investments in infrastructure have disproportionately helped some communities and left out others. From the millions of people with no or poor access to Broadband to even more serious lack of access to safe water as demonstrated in Flint, Michigan, and thousands of communities with similar problems that have been identified across the U.S., certain people and communities have felt the infrastructure deficit more severely than others.

Furthermore, planning for investment in roads, bridges, mass transit and other traditional infrastructure investment often negatively affects certain communities by building over or through them and otherwise ignoring their needs. Employment opportunities from infrastructure investment have also not broadly benefited all communities.

There will always be winners and losers in the distribution of infrastructure spending, but with more heightened societal focus on issues of equity, real estate investors can expect enhanced focus on providing measurable public benefits and investment in some areas and communities that have been marginalized in the past, providing economic opportunity for those who follow these trends.

CONCLUSION

Infrastructure is a perennial Top Ten issue given the huge infrastructure deficit in the U.S. and other countries, the key role of infrastructure in job creation and public safety risk mitigation, and its role in determining geographic winners and losers. In 2021, COVID-19, climate change, and social and economic equity concerns have introduced a whole new set of key issues for real estate owners and tenants to master. •

ENDNOTES

1. 2021 Report Card for America's Infrastructure, American Society of Civil Engineers. https://infrastructurereportcard.org/ (accessed July 12, 2021).

2. Jared Katseff, Shannon Peloquin, Michael Rooney, and Todd Wintner. "Reimagining Infrastructure in the United States: How to Build Better." McKinsey & Company, July 6, 2020. https://www.mckinsey.com/business-functions/operations/our-insights/reimagining-infrastructure-in-the-united-states-how-to-build-better (accessed July 12, 2021).

3. Marcela Escobari, Dhruv Gandhi, and Sebastian Strauss. "How Federal Infrastructure Investment Can Put America to Work." Brookings Institute, March 17, 2021. https://www.brookings.edu/research/how-federal-infrastructure-investment-can-put-america-to-work/ (accessed July 12, 2021).

4. Katseff, Peloquin, Rooney, and Wintner, *supra* note 2.

5. While COVID-19 has also exposed an even more significant need for affordable and emergency housing, and other social service and safety net issues, these issues are really not new, and are not addressed in this infrastructure section (see separate Top 10 issues on Affordable Housing and Economic Structural Change for more on these topics)

6. Lisa Iscrupe. "America's Broadband Divide, Where do We Stand?" Allconnect, May 4, 2021. https://www.allconnect.com/blog/americas-broadband-divide-revealed (accessed July 12, 2021).

7. Rick Zullo. "Viewpoints: 11 supply chain predictions for 2021." Freightwaves, February 1, 2021. https://www.freightwaves.com/news/11-supply-chain-predictions-for-2021 (accessed July 12, 2021).

8. *Ibid.*

9. Susan R. Bailey. "Pandemic exposes dire need to rebuild public health infrastructure." American Medical Association, February 21, 2021. https://www.ama-assn.org/about/leadership/pandemic-exposes-dire-need-rebuild-public-health-infrastructure (accessed July 12, 2021).

10. Electromobility includes vehicles, buses, rail, "tuk tuks", electric bikes, electric scooters, and electric skateboards.

11. Peter Newman. "New Infrastructure for a new economy." Infrastructure Magazine, August 10, 2020. https://infrastructuremagazine.com.au/2020/08/10/the-new-infrastructure-for-a-new-economy/ (accessed July 12, 2021).

12. Claudia Copeland and Nicole T. Carter. "Energy-Water nexus: The Water Sector's Energy Use." Congressional Research Service, January 24, 2017. https://fas.org/sgp/crs/misc/R43200.pdf (accessed July 12, 2021).

13. "Climate Resilient Infrastructure." OECD Environmental Policy Paper 14, 2018. https://www.oecd.org/environment/cc/policy-perspectives-climate-resilient-infrastructure.pdf (accessed July 12, 2021).

14. Bo MacInnis and Jon Krosnick. "Climate Insights 2020: Natural Disasters." Resources for the Future, September 4, 2020. https://www.rff.org/publications/reports/climateinsights2020-natural-disasters/ (accessed July 12, 2021).

15. "U.S. State Climate Action Plans." Center for Climate and Energy Solutions, September 2020. https://www.c2es.org/document/climate-action-plans/ (accessed July 12, 2021).

16. "Climate Action Plans in 50 Largest Cities." Ballotpedia, September 2019. https://ballotpedia.org/Climate_action_plans_in_the_50_largest_cities (accessed July 12, 2021).

17. *Natural Hazard Mitigation Saves 2017 Interim Report: An Independent Study – Summary of Findings*. National Institute of Building Sciences Multihazard Mitigation Council, December 2017. https://www.fema.gov/sites/default/files/2020-07/fema_ms2_interim_report_2017.pdf (accessed July 12, 2021).

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