FUTURE TRENDS

مؤسّسة دبي للمستقبل
DUBAI FUTURE FOUNDATION

In collaboration with

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INSIGHTS IN BRIEF

City density will become an increasingly important issue given that the urban population of the Middle East and North Africa (MENA) is expected to double by 2040. Around two-thirds of the region's people currently live in cities.

It is estimated that up to 20% of the MENA population may be currently working remotely, indicating that there will be a gradual expansion of the urban population.

City planning will need to focus on three dimensions: density, mobility and connectivity.

CURRENT SITUATION

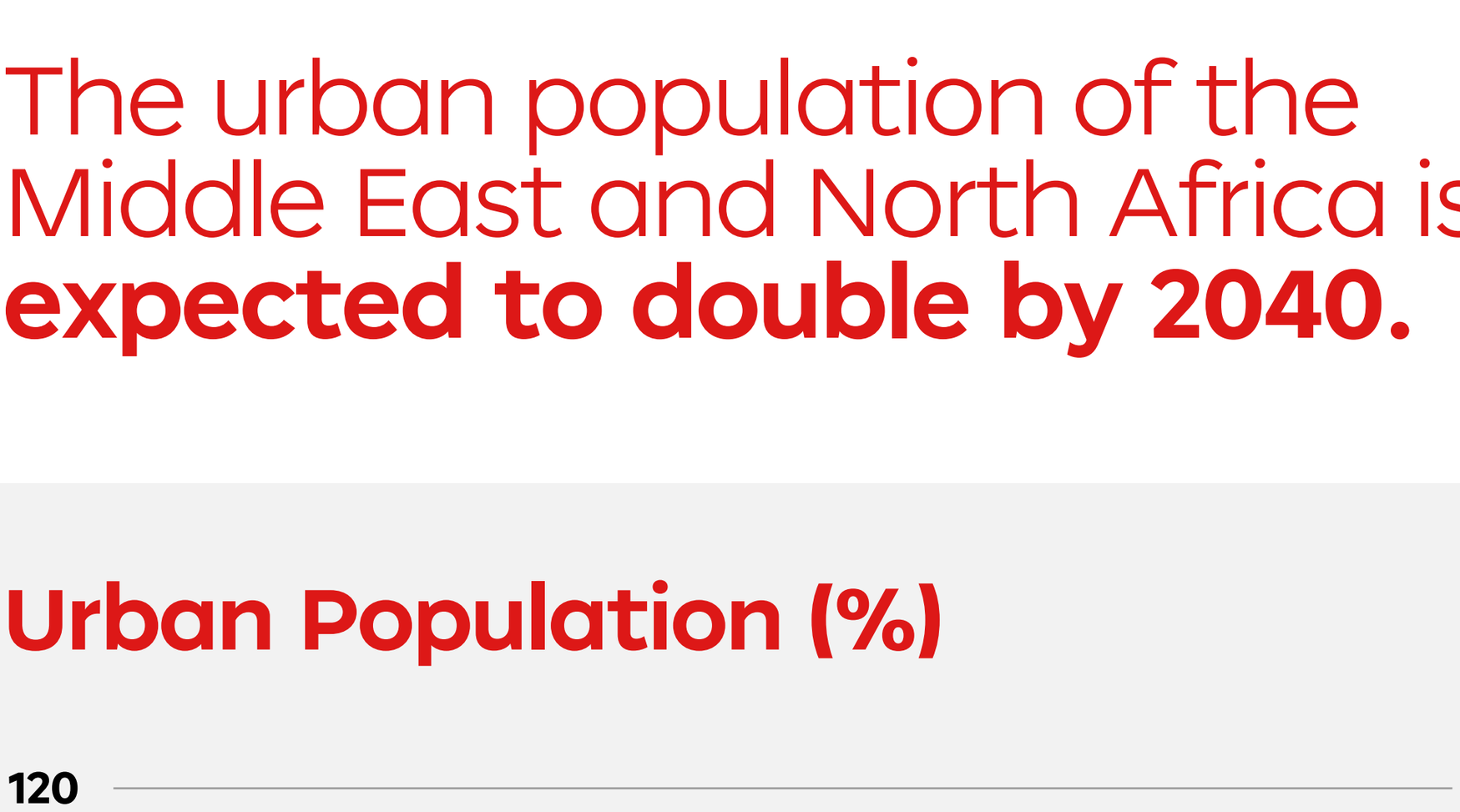
COVID-19 has disrupted many aspects of urban life and is expected to have a lasting impact on city design. Traffic declined up to 90% in urban centres such as Mumbai, Shanghai, Rome and Dubai after employers implemented remote working policies and public transit services were temporarily halted.[1, 2] Public places that were typically crowded have seen footfall diminish as governments around the world have issued recommendations for residents to stay home or abide by social distancing guidelines requiring people to maintain a distance of two meters or more between one another. If such trends and guidelines continue, not only to contain the current pandemic, but to provide resilience against future ones, the impact on cities will be profound, given that density and mobility between residential communities, business districts and social settings have been fundamental characteristics of urban centres. Some sort of paradigm shift may be approaching whereby cities have to adapt their existing urban planning norms. The 'new normal' will directly affect existing infrastructure as well as planning for the future of cities.

1 https://360.here.com/covid-19-impact-traffic-congestion
2 https://www.thenational.ae/uae/environment/coronavirus-uae-reports-big-drop-in-air-pollution-during-pandemic-1.1025909

The spread of the pandemic in the world's most connected urban centres has raised questions about the impact of population density on health. Continued social distancing recommendations would create pressure for the familiar pattern of densely populated urban areas to evolve into one or more sprawling and safer cities. According to the World Health Organization (WHO), high-density cities can make residents more vulnerable to communicable diseases that can be transmitted by air and intensified by crowding and poor ventilation, such as COVID-19, as well as from waterborne or vectorborne diseases such as dengue.[3] City density will become an increasingly important issue as urbanisation increases, given that the urban population of the Middle East and North Africa is expected to double by 2040 and around two-thirds of the region's people will live in cities.[4]

The urban population of the Middle East and North Africa is **expected to double by 2040.**

Urban Population (%)



United Nations Population Division, New York, World Urbanization Prospects: The 2018 Revision

[3] https://www.weforum.org/agenda/2020/05/coronavirus-change-cities-infrastructure
[4] https://www.thenational.ae/opinion/comment/urban-planning-can-make-the-middle-east-more-resilient-to-outside-forces-1.901325

The argument for rethinking city density is further supported by the implementation of work-from-home policies, which are raising the question of whether workers will need to live in cities close to their offices or make daily commutes at all in the future. The share of remote workers in the global workforce has been increasing in recent decades, raising the prospect of a more sustainable future for cities in which more residents work remotely and reduce pressure on urban transport and infrastructure.[5] Although official figures are not yet available, it is estimated that up to 20% of the MENA population may currently be working remotely. This suggests that a gradual expansion of the urban population could be supported by a proportionate expansion in the remote workforce, helping to reduce commuter traffic and improve the quality of life.[6]

The share of remote workers in the global workforce has been increasing in recent decades.

However, conversely, it has also been noted that in certain respects dense or compact cities can have some success in stemming contagion. According to UN Habitat, well-planned compact cities that prioritise public transport, walking, cycling and open spaces allow residents easier access to healthcare and basic services, enabling them to self-isolate or quarantine more effectively.[7] Such well-planned cities can also be more resilient if they offer shorter commutes, open walkable public spaces and rapid delivery systems.

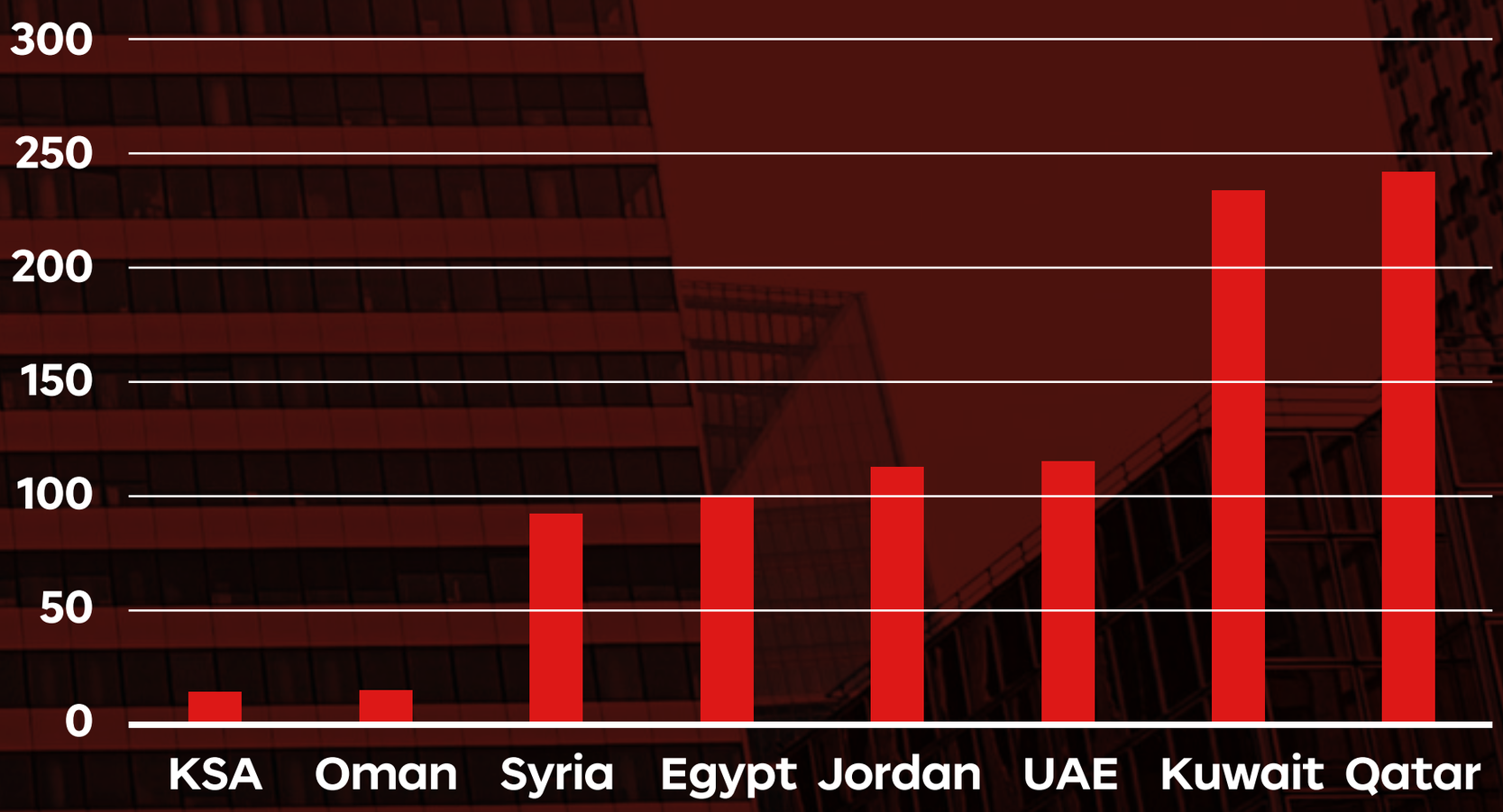
5 https://360.here.com/covid-19-impact-traffic-congestion
6 https://www.ilo.org/shinyapps/bulkexplorer10/?lang=en&segment=indicator&id=EMP_2EMP_SEX_ECO_NB_A
7 https://www.weforum.org/agenda/2020/05/coronavirus-change-cities-infrastructure

OPPORTUNITY

Changes in urban planning norms due to the latest pandemic would not be unprecedented. Previous health crises, such as yellow fever and cholera, also led to reforms in city infrastructure, resulting in the establishment of today's standards of waste water systems and public spaces. This year major cities were transformed into ghost towns in response to the pandemic. Planning, engineering and public health authorities have had to work closely to develop new health, safety and sanitary regulations and will need to continue to combine their efforts. Based on lessons learned from the crisis, city planning will need to focus on three dimensions: density, mobility and connectivity. Priorities include managing density to provide access to services without exacerbating disease transmission; creating sustainable mobility options; and quality connectivity through technology. This is therefore a unique opportunity to create more resilient cities that promote the well-being of their residents with a cleaner, greener, and smarter infrastructure.

Urban communities must also remain active and economically vibrant, as it is estimated that major cities generate about 80% of the GDP worldwide.[8]

Population Density / km²



8 https://www.worldbank.org/en/topic/urbandevelopment/overview

LOOKING AHEAD

Short-term insights
(During the COVID-19 outbreak)

1.
Accelerate smart city initiatives and data gathering efforts

Increasing the volume of city-level data can help governments implement 'smart' regulations and infrastructure that enable residents to inhabit and navigate urban centres more healthily and sustainably. Given that data is typically gathered at the country level and containment and mobility policies are largely developed at the local level, cities need to accelerate their data aggregation efforts to help them build urban resilience.[9] The COVID-19 response in South Korea and Taiwan was largely driven by the availability of comprehensive granular data supported by community groups, universities, private sector bodies and citizens.

There is scope for regularly updated data to be collected in areas such as traffic, noise, air quality, energy consumption, and movement. For example, in terms of traffic, smart sensors and data sharing agreements can enable local authorities to monitor vehicle movements, pedestrian flow and car park occupancy. Such detailed data streams can enable authorities and enterprises to make more informed and sustainable decisions in the current crisis and in the future, creating a more connected and liveable city.[10]

9 https://www.bbc.com/news/world-52103747
10 https://www.weforum.org/agenda/2020/04/smart-cities-technology-coronavirus-covid19/

2.
Innovative technologies

Innovative technologies can decrease the need for manual human operation. These include self-cleaning materials and automated touchless technologies such as automatic doors, voice-activated elevators, cell phone-controlled hotel room entry, hands-free light switches and temperature controls, automated luggage bag tags, and advanced airport check-in and security.

Short to long-term insights
(Post COVID-19)

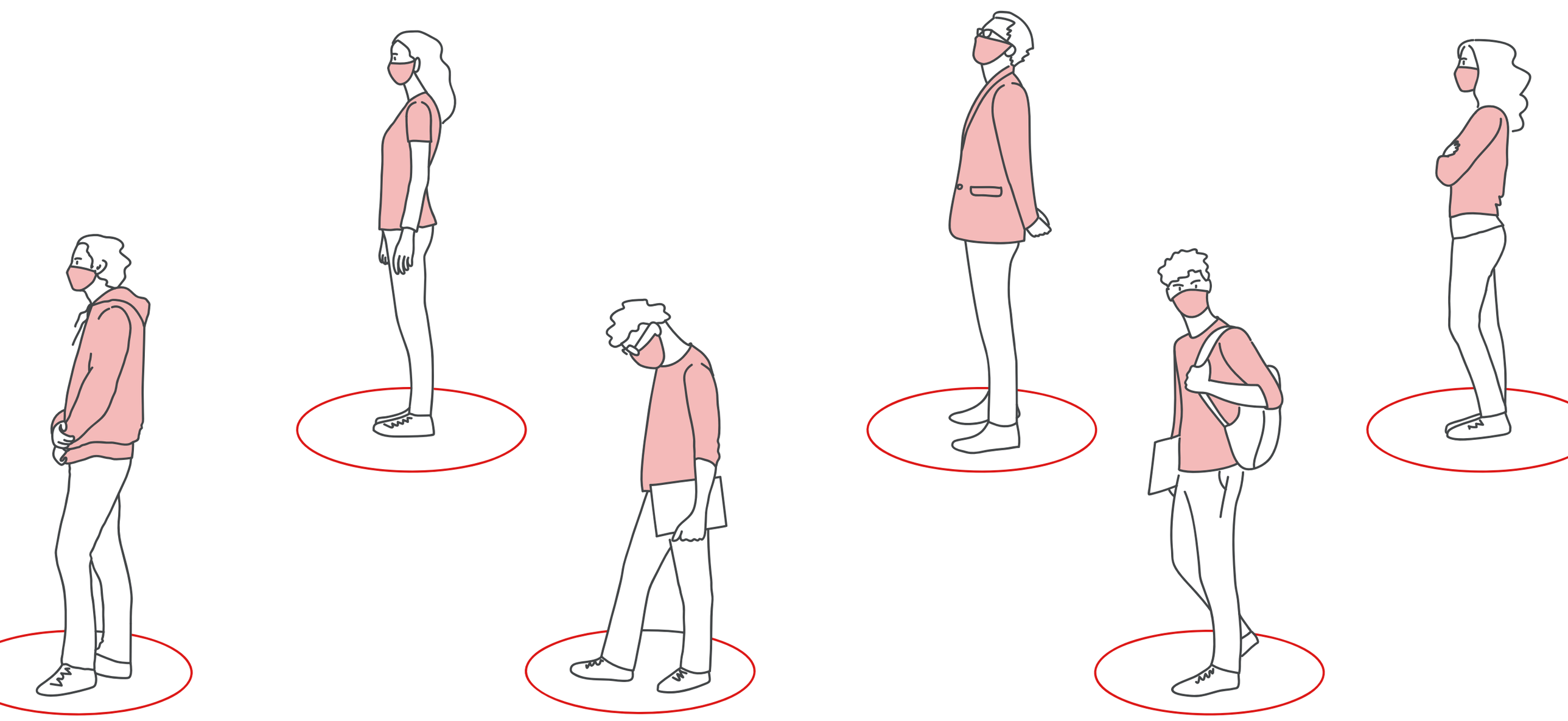
1.
Urban mobility and public transit

Challenges faced by public transport and mobility generally due to COVID-19 provide new impetus to authorities to rethink the way their citizens live and move around and the associated planning issues involved. For example, as fewer people have been commuting into city centres, several cities around the world are now working towards creating physically closer urban communities in which residents can reach neighbourhood shops and facilities to serve their needs within 15 minutes.[11, 12]

11 https://www.logisticsmiddleeast.com/transport/35528-how-gcc-transportation-authorities-should-prepare-for-a-world-transformed-by-covid-19
12 https://www.c40knowledgehub.org/s/article/How-to-build-back-better-with-a-15-minute-city

2.
Integrated ‘grey’, ‘green’ and ‘blue’ spaces to improve quality of life

Urban parks and usable green areas will also be critical to provide residents with safe public spaces in which social distancing measures can be implemented. Lockdown measures that curbed the use of public spaces for exercising outdoors or dog-walking were critical to prevent the spread of the virus in highly populated urban areas but were also among the most difficult to implement as individuals sought to maintain a level of physical activity. A holistic approach to planning that allows spatial distancing and combines grey, green and blue infrastructure will support public health. Moreover, larger open spaces within urban areas can also help cities implement emergency services and evacuation protocols.[13]



13 https://thecityfix.com/blog/will-covid-19-affect-urban-planning-rogier-van-den-berg/

3.
Consciously built environments

We spend 90% of our time inside human built environments: our homes, shopping malls or workplaces. However, built environments provide higher chances for people to come into contact with viruses and bacteria through the air flow from surfaces and also from the way these buildings encourage people to interact with each other. In response to the increased understanding acquired through the pandemic, we need to reconsider buildings design in several ways:

A Updating building regulations and specifications to ensure occupants' health and well-being. This could include mechanical and architectural requirements such as increasing natural light and improving filtration requirements.

B Redesigning workplaces to integrate virtual working methods with traditional workspaces to achieve a balance between individual concentration and productive collaboration. The challenge for architects is to design open spaces that enable and encourage people to spread out and have less contact with each other while still working together.

C Using construction elements previously reserved for healthcare in public spaces. These could include medical-grade surfaces and ventilation systems that remove potentially contaminated air from an area.

D Large-scale adoption of sensor technologies and health screening devices such as thermometers in city spaces.