# 5 Transport and urban development

In the MENA region, years of very rapid urbanisation and countries' inability to maintain a sufficient provision of adequate infrastructure and services exacerbated vulnerabilities during the COVID-19 pandemic. This chapter considers sustainable models for urban space and solutions to current vulnerabilities. It stresses the need to improve the governance of public transport in MENA countries, by shifting to a sustainable transport infrastructure, and to provide adequate finance to the public transport sector so that it remains affordable for users. The policy recommendations point to action to develop green and sustainable cities, aligning policies on housing, land-use management and transport.

## Key takeaways

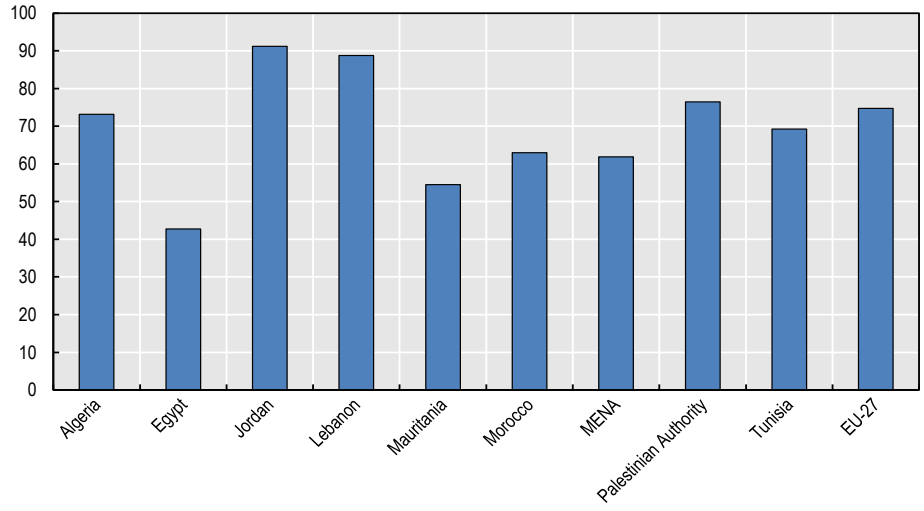
- The COVID-19 crisis has highlighted the importance of thinking about sustainable models for urban space and solutions to current vulnerabilities, such as distance to essential services and poor access to water. In the MENA region, vulnerabilities were indirect results of rapid urbanisation, one of the fastest growing in the world, which was not met at the same pace with sufficient provision of adequate infrastructure and services.
- The decrease in air pollutants in MENA countries during the periods of mobility restrictions invites a reflection on the health costs of increased pollution associated to current models of economic and urban development. Exposure to air pollution contributes to increased infections and eventually deaths from respiratory distress viruses, such as COVID-19. The region has a number of aggravating meteorological patterns (e.g. sandstorms, dust, heat waves and extreme temperature) increasing the danger posed by pollutants. Pollution reduction should be a priority while thinking about the future economic development.
- The pandemic fostered a reflexion on new solutions to urban congestion and urban mobility, to reimagine urban life and spark transformative changes in cities, giving rise to innovative forms of active urban micromobility, including non-motorised transport. The benefits of proximity were made evident during the pandemic, as social distancing and lockdowns naturally pushed confined populations to modify the scope of their activities. This has generated a renewed interest in neighbourhood life. More public and private initiatives on green and resilient urban mobility could be fostered to maintain the newfound habits and accompany a shift in habits.
- The pandemic also paved the way for reduced mobility through teleworking. Estimates of a scenario of, e.g., two days per week of teleworking - which would be equivalent to a 12.5% reduction in work-related travel - could potentially contribute to a 5% reduction in urban pollution and 4% reduction in NO2 pollution. These would require adequate policies on digitalisation in cities, making distant work a possibile option when jobs are almenable to telework.
- The crisis stressed the need to improve the governance of public transport, by shifting to sustainable transport infrastructure and providing adequate finance to the public transport sector so that it remains affordable for users. Affordable and accessible transport reduces the use of private cars, which represent the highest contributors to the increase in emissions in the transport sector worldwide. To develop green and sustainable cities, with enhanced access to services, it is important to align policies on housing, land-use management and transport, and secure proper financing for public transport.
- The global pandemic significantly slowed traffic in all modes of transport. While the long-term impact on transport services is still difficult to predict, there has been an acceleration in digitalisation within the transport and logistics sector, which can render the sector more efficient. The harmonisation of existing initiatives and strategies is necessary for a sustainable recovery, to reduce the existing gaps between the two shores of the Mediterranean by further developing the South-South and South-North interconnection, in all modes of transport.

According to recent estimates, cities are home to almost half (48%) of the global population and this share is projected to reach 55% by 2050 (OECD/European Commission, 2020[1]). The MENA region[1], in particular, has one of the fastest urbanisation rates in the world. Slightly lower than estimations for the EU-27 where 75% of the total population reside in urban areas, currently 60% of the Mediterranean region's inhabitants live in urban areas (Figure 5.1). This proportion is expected to increase by 22.5 million inhabitants within the next decade due to the broad MENA region's exceptionally high birth rates in the upper 20 births per 1000 capita, along with an upward trend of intensive migration from rural to urban areas (International Centre for Migration Policy Development (ICMPD), 2018[2]). These population movements are driven by a variety of factors, including the modernisation of the agricultural sector, alternative economic opportunities, and migration from countries in the region with political instability and ongoing conflicts.

Further estimates indicate that 28 of the 30 largest cities in the broad MENA region will experience rapid levels of growth, with populations expected to increase over 15% by 2035. The fastest growing cities (>35% growth) are expected to be Cairo, Tangier, and Alexandria. Moroccan cities are also projected to experience 30% population growth rates. Cities in Lebanon and Jordan are considered to be, comparatively, slower growing cities, albeit, they will still maintain an average of 10% annual growth (UN, 2018[3]).

## Figure 5.1. Urban population in MENA and EU-27, 2019

As a % of total population




Note: Data for MENA include all MENA countries that are members of the UfM, plus Djibouti, Iran, Iraq, Syria and Yemen. Urban population refers to people living in urban areas as defined by national statistical offices.
Source: World Development Indicators, https://data.worldbank.org/; https://data.worldbank.org/indicator/SP.URB.TOTL.IN.ZS

With these high rates of growth in urban population, the region's cities face a range of challenges, all of which were exacerbated by the COVID-19 pandemic. Prior to the pandemic, the broad MENA region was facing growing urbanisation rates, but did not follow the same pace in creating adequate infrastructure and services. In consequence, the expansion of major urban centres in the Middle East and North Africa has outpaced the development of public service infrastructure, increasing the distances to public services. People living further away from urban centers are often not sufficiently connected to schools and hospitals and underdeveloped infrastructure leaves large part of populations without sufficient access to water, electricity and good connectivity to the internet.

During the pandemic, the containment measures not only further constrained access to those services, but also, in turn, inadequate access to basic infrastructure made it harder to contain the spread of COVID-19 and implement social distancing measures (Khavarian-Garmsir, 2020[4]). The pandemic especially affected vulnerable communities, living in poorer urban areas with poorer health, water, and sanitation facilities or refugee communities living in densely populated camps (OECD, 2020[5]).

## Urban renewal, regeneration and development

The COVID-19 crisis has stressed the importance of reflecting about sustainable models for urban space and solutions against current vulnerabilities. Large-scale urban regeneration that densifies the urban core of a city is a complex, long-term process that requires great financial and political efforts (OECD, 2020[6]). Major adjustments to the existing urban fabric and urban networks, such as large-scale street furniture and public transport works, which are necessary in order to implement a sustainable urban policy are very often confronted with economic challenges and questioning public opinion. However, if they are carried out in a well-considered way, they promise not only to improve the sustainability and resilience of a city, but also to improve its liveability and strengthen its social fabric. This is particularly important in the broad MENA region, where cities are both critical to sustainable development and highly vulnerable to the effects of climate change. High levels of air pollution, which have previously saturated urban spaces, have experienced a substantive improvement during the COVID-19 mobility restrictions and confinements.

The global pandemic has created an opportunity by forcing a number of habit changes on urban dwellers around the world relevant to reducing pollution levels, such as shifting to biking and increased teleworking. It has also shown that more eco-friendly urban planning is possible by, for example, expanding non-motorised transit networks and infrastructure.

### *Air pollution in the MENA region*

The question of the urbanisation of societies has always brought with it related issues such as the well-being of city dwellers, their health and living environment, the economic development of urban agglomerations and finally the correlation between these issues. The urgency and severity of the measures taken to stop the spread of the disease had an immediate indirect effect on reducing air pollution emissions.

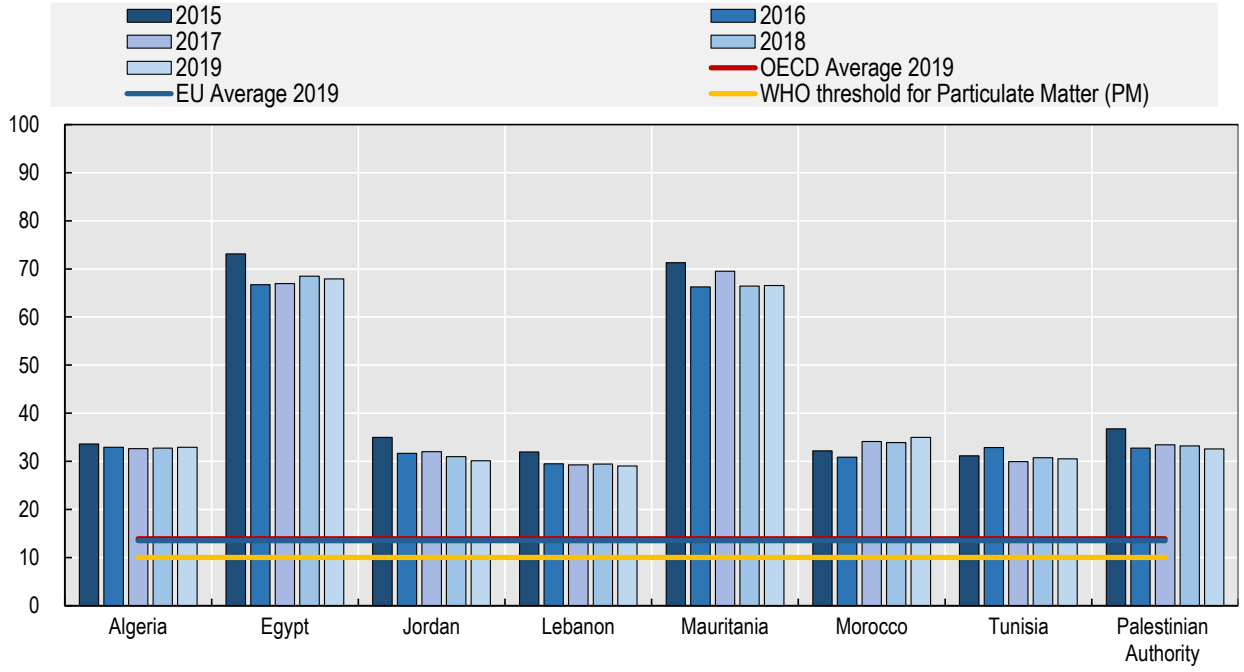
Cities, which generate and attract a substantial part of the economic activity around the world, and engender a great number of motorised displacements, have become the areas where the main air quality problems happen (WHO, 2016[7]). Large cities are particularly impacted by air pollution, which adversely affects human health, ecosystems, agricultural productivity, the built environment, and the regional climate. Since 2010, air quality in cities around the world has tended to improve. There has been a reduction in PM2.5 concentration also in developing regions, with this positive trend being strongest in East Asia and the Pacific (falling by 4 percentage points) and in the Middle East and North Africa (falling by 5 percentage points (OECD, 2020[8]).

However, air pollution levels remain high in cities and tend to be higher in the poorest countries. In larger, cities, emissions associated with transport and energy contribute to high levels of localised pollution. The MENA region has a number of additional aggravating features, with large-scale (synoptic) weather patterns affecting pollutants. There are unusually high levels of ozone production in the region (Lelieveld, 2009[9]), because human pollution is mixed with dust, lifted into the atmosphere from deserts or local winds (such as the Shamal, Sirrocco or Harmattan). Dust (generally classified as PM10, or PM2.5 with particle diameters greater than 10 and 2.5 micrometres respectively) settles more rapidly in the atmosphere (Liu et al., 2009[10]). The larger particles are largely filtered by the upper respiratory system (nose and mouth), which is not the case for the finer particles such as PM2.5, which are particularly present in the MENA region (Figure 5.2). According to WHO research, PM, and PM2.5 in particular, are responsible for

respiratory infections, lung diseases and, above all, a compromised immune system. Exposure to ozone, on the other hand, can induce oxidative stress leading to airway inflammation and increased respiratory morbidity, according to recent US studies.

## Figure 5.2. Exposure to PM2.5 in MENA countries

µg/m3 annual mean, 2015-19




Note: The concentration estimates are population-weighted using gridded population datasets from the Joint Research Center Global Human Settlement project. PM is a common proxy indicator for air pollution. The current WHO threshold is that PM2.5 not exceed 10 µg/m3 annual mean, see: http://whqlibdoc.who.int/hq/2006/WHOSDEPHEOEH06.02_eng.pdf.
Source: OECD Stat 2021 https://stats.oecd.org/Index.aspx?DataSetCode=EXP_PM2_5# , Global Burden of Disease (GBD) 2019 project, Joint Research Center Global Human Settlement project.

Dust and sandstorms in the MENA region aggravate the impact of pollution on people's health, as both are in themselves factors of respiratory diseases such as asthma and act as vectors for toxic metals. In terms of the impact of pollution on viral pandemics, limited research has been conducted on the ability of dust to transport viruses, either short- or long-range, but it has been shown that microbes and viruses are more present in ambient air during dust storms. Findings also show that exposure to air pollution, particularly PM2.5 and NO2, contributes to increased infections and deaths from respiratory distress viruses, especially COVID-19 (Katoto et al., 2021[11]). While data on the correlation between COVID-19 deaths and ambient pollution in MENA countries are not available, pollution reduction should be integrated in any reflection on economic development of urban environments post-COVID-19.

**Air pollution reduction during COVID-19 mobility restrictions and confinements.** To fight the pandemic, MENA countries quickly implemented restrictive measures on the movement of populations with more or less severe confinements from mid-March 2020 onwards (Table 5.1).

### Table 5.1. COVID-19 crisis and lockdown starting dates in the MENA region

| | Date lockdown began | Type of lockdown (full / partial / none) |
|---|---|---|
| **Algeria** | 24/03/2020 | Full |
| **Egypt** | 24/03/2020 | Full |
| **Jordan** | 21/03/2020 | Full |
| **Lebanon** | 16/03/2020 | Full |
| **Morocco** | 16/03/2020 | Full |
| **Palestinian Authority** | 05/03/2020 | Full |
| **Tunisia** | 20/03/2020 | Full |

Source: COVID-19 Lockdown dates by country | Kaggle; (OECD, 2020[5])

In the European Union, confinements coincided with a rapid drop in fine particle emissions; it was estimated that most cities reduced pollution levels by 30–50% compared with the same period in 2019 (European Environemental Agency, 2021[12]). Indeed, recent studies estimate that between 30 and 40% of pollution in urban areas comes from traffic-related emissions (Badia et al., 2021[13]).

Accurate data for MENA countries are not available. A series of local studies, albeit using various methodologies and sources, have shown a comparable trend in the decline of air pollutant emissions in the main cities of the region.

- **Algeria:** A significant reduction of PM2.5 (-11%) was seen in the city of Algiers when comparing the average values of PM2.5 recorded between January-June 2020 to those recoded during the same period in 2018-19 (Benchrif et al., 2021[14]).
- **Egypt:** PM2.5 concentrations were reduced by 46.3% during the full lockdown of April-May 2020 in Alexandria, when comparing to the pre-lockdown period of January-February 2020 (El-Sheekh and Hassan, 2020[15]), at the same time, NO2 emissions reached 15 and 33% of the emissions recorded in the same period one year prior in Cairo and Alexandria.
- For **Jordan** and **Lebanon**: A study conducted on 21 metropolitan cities in the larger Middle East and North Africa region measured pollutants such as $SO_2$, $NO_2$, and CO. The study assessed the impact of the pandemic lockdown of March-June 2020 compared to the same period in 2019. $NO_2$ concentrations in **Amman** and **Beirut** decreased by −56.6% and −43.4%, respectively, during the period of the lockdown (El Kenawy et al., 2021[16]).
- A similar trend was measured in **Moroccan cities**: In Salé city, during the lockdown measures, the obtained results showed that the difference between the concentrations recorded before and during the lockdown period were respectively 75%, 49% and 96% for PM10, SO2 and NO2 (Otmani et al., 2020[17]). PM2.5 emissions also dropped by -18 µg/m3 in Casablanca and -14 µg/m3 in Marrakech compared to the pre-quarantine period (Khomsi et al., 2020[18]).
- In **Tunisia**, PM2.5 concentrations in Tunis dropped by an average of 20% in March compared to January 2020. Similar trends were observed in other cities such as Sousse (7%) and Sfax (23%) (Chekir and Ben Salem, 2020[19]).

#### *Increased teleworking as a tool for tackling air pollution and traffic congestion*

**Addressing traffic congestion by rethinking urban mobility after the pandemic.** Since the pandemic started, teleworking or hybrid working has become part of the new urban normality. Several studies in the recent past indicated that telework can be a promising tool for urban planning and development, focusing on reducing traffic volume and improving air quality (Giovanis, 2018[20]).

Figures from Google Community Mobility Reports (Google, 2021[21]) observing movement of people during the COVID-19 confinements indicate that workplace attendance dropped by more than 60% in countries where strict lockdown measures imposed maximum teleworking, notably in EU Mediterranean countries such as France, Spain and Italy.

While there has been little analysis of the effects of large-scale telework on urban air improvement, it is estimated, however, that telework could potentially contribute to a 2.5-4% reduction of ambient pollutant emissions in cities. A study by the Institute of Environmental Science and Technology (ICTA-UAB) (Badia et al., 2021[13]) conducted in the city of Barcelona, highlighted lessons on air pollution reduction in large urban areas learned from successive lockdowns between 2020 and 2021. The researchers defined three different socio-occupational scenarios based on a two-, three- or four-day teleworking week, and studied the changes in pollution using an air quality model for each. The first scenario envisages teleworking two days a week. Estimates suggest that this would reduce motorised traffic emissions by 5% and NO2 levels by 4%. This scenario assumes a 12.5% reduction in work-related travel. A second scenario consisting of three days of teleworking would reduce pollutant emissions by 10% and NO2 levels by 8%, reducing work-related travel by 25%. A third, even more amitious scenario would reduce emissions by 15% and NO2 levels by 10%, if 40% of service sector employees teleworked four days a week, reducing their travel by 37.5%.

Teleworking might also represent a development opportunity for cities (UN Habitat, 2021[22]), particularly second-tier and smaller cities, the latter having the momentum to attract remote workers fleeing large city pollution and noise in favour of calmer urban areas. Those cities might become exponentially attractive by investing in services desired by high-tech remote workers: broadband, healthcare, with a focus on sustainability.

However, people and places are unequal to telework, and the MENA region faces vulnerabilities that could limit the feasibility of teleworking. In general, a global trend is that cities have a higher share of jobs suitable for telework (13% more than in rural areas). Secondly, infrastructure gaps or digital inequalities also come into play (OECD, 2020[8]). Many workers in the MENA region cannot benefit from teleworking opportunities, because of the nature of their job (e.g. manual) and/or or the digital divide present throughout the region.

- A large proportion of workers in the MENA region are in informal employment and are more likely to be exposed to health and safety risks without appropriate protection, such as masks or hand sanitisers. Moreover, many informal jobs cannot be performed by teleworking, e.g. construction and many activities in the services sector which produce a large part of the region's GDP.
- Moreover, many workers in the region do not have a stable broadband internet connection at home, and/or companies cannot afford to provide their employees with the technology to telework.

As cities move from emergency responses to long-term strategies, strengthening and expanding access to the internet and digital equipment becomes an important part of recovery and resilience.

### *A shift in urban mobility*

In an attempt to prevent the initial spread of the coronavirus, early government responses included restricting non-essential travel, reducing transport services, and implementing rigorous hygiene and distancing measures on public transport. These regulations had a severe impact on the urban transport sector, which is still struggling worldwide with reduced passenger loads by 50-90% and revenue losses of up to 75% in 2021 (World Economic Forum, 2021[23]). Despite the remarkable ability of public transport systems in developed countries to limit transport-related COVID clusters, the recent experience of **reduced traffic and air pollution** has motivated many city leaders to pursue greener and more sustainable forms of urban mobility.

The pandemic encouraged the proliferation of non-motorised transport, such as bike and walking, triggered by both public action and individual responses. During the lockdowns, forms of micromobility such as

walking in the neighbourhood has replaced cross-city travel while cycling is an effective alternative for longer trips previously taken by public transport (ITF, 2021[24]). These modes also took on more importance in some cities as private motor vehicle use was restricted or discouraged. In Amman and across much of the rest of Jordan, for instance, Cars were officially banned for 40 days in order to limit the distances travelled by Jordanians, thus creating a hybrid containment, which encouraged a shift to other means of transport to the exclusion of public transports. Other cities have made cycling a preferred option by deploying bicycle emergency lines, while others have created wider pavements by blocking sections of the curb.

Although this trend of alternative mobility started as a temporary measure, cities are already looking to permanently expand their non-motorised transit networks and infrastructure as a strategy to reduce personal vehicle use, decrease demand for congested public transport, all while improving local air quality and reducing CO2 emissions.

- In fact, retrofitting of streets into bike lanes became a recurring global trend in cities such as Berlin, Bogota, Kampala, Lima, Nairobi and New York. The mayor of Milan in Italy – home to one of the most polluted regions in Europe – has announced that the city will retrofit 22 miles of streets for post-COVID cycling and walking as a commitment towards micro and clean forms of urban mobility (UN Habitat, 2021[22]).

While each MENA member has its own specificities, there is a trend towards public and private initiatives to foster green and more resilient urban mobility.

- **Egypt:** The Ministry of Youth and Sports is launching the fourth round of '**Your Bike… Your Health**' initiative which offers all-new electric bikes at reduced prices to encourage youths to use bikes to improve lifestyle and fitness and change commuting habits. Egypt has a very limited amount of cycling tracks, but this is in process to change. The Government of the Netherlands and the GEF Small Grants Programme (SGP), as well as UNDP are working on various projects to encourage non-motorised transport, including the establishment of cycling lanes, student loans for buying bicycles, as well as pioneering a university bike-sharing scheme. This showcases the viability of cycle-sharing schemes in Egypt (UNDP, 2021[25]). The latter are also under private initiative scrutiny, such as the Tabdeel initiative to create cleaner, healthier and human-centred cities in Egypt and North Africa through redesigning urban infrastructures to promote bicycling. Tabdeel is currently working with governmental authorities to create Egypt's first legal code for designing streets that accommodate cycling (Wagner, 2021[26]).
- **Lebanon**: The current dire economic situation took a toll on car imports, with the latter falling by 70% over the past 2 years. Moreover, the monetary situation is currently creating shortages in fuel. As a result, non-motorised means of transport and carpooling are becoming the new transport norm. The cycling culture is rapidly growing in Lebanon and private initiatives for a more sustainable transport are the key; an example is Wave, a subscription-based service for renting electric bicycles launched by private Dutch investment in March 2021 (Kanaan, 2021[27]). Hadeer bus company, a local SME, which provides affordable bus transport along the country's northern coastal highway was created during the COVID-19 crisis and presents itself as an alternative to deficient public transport. Hadeer's services also aims to reconnect female populations as 60% of its customers are women (France24, 2021[28]). Beirut municipality is also promoting other means of transport such as tuk-tuks.
- **Jordan:** The country is on the forefront of the shift towards a more sustainable urban mobility. Following the outbreak of COVID-19 pandemic, the Mayor of Greater Amman Municipality (GAM) formed an emergency taskforce intended to enhance accessibility of critical urban services for citizens. Moreover, with the support of the EBRD, the Amman Green City Action Plan (GCAP) 2021 was put in place. Objectives include the increase in modal share of public transport by 30% by 2030, development of a strategy to support pedestrian travel, and incorporation of smart systems

in transporation planning (Greater Amman Municipality, EBRD, 2021[29]) (Greater Amman Municipality, 2020[30]) (Tarawneh et al., 2020[31]).

This trend follows a worldwide pattern: The pandemic has led to the rapid reorganisation of urban space, with for example, in some OECD countries, the occasional and sometimes sustained widening of pavements, pedestrianisation of streets and cycle lanes to meet the urgent need for social distancing. This global experiment in 'tactical urbanism' has proven to be a powerful tool for governments to reduce the dependence of urban spaces on the automobile (OECD, LSECities, 2021[32]). In the long-term, promoting innovative and sustainable policies related to urban space design as well as forms of active mobility, such as walking and cycling, compact, transit-oriented and mixed land-use and accessible and affordable public transport would be a comprehensive approach that addresses at the same time recovery post pandemic, climate change and inclusivity. In the MENA region, there are limitations that need to be first addressed, such as the prominence of car-centric urban development, negative socio-economic bias on cycling, insufficient technical resources to allot to sustainable transport, rugged topography, and high temperatures and humidity in the summer. Nonetheless, the adoption of mobility alternatives and reclaiming street spaces for pedestrians in the MENA countries can have multifaceted and widespread benefits. Moreover, as demonstrated in Egypt and Lebanon, private initiatives play an important role in the urban mobility transition.

### *Policy considerations*

Municipalities in MENA countries could foster urban development, renewal and regeneration by drawing on the experience accumulated by cities in OECD countries in their responses to the pandemic. In many cases, the crisis acted as an accelerator of positive changes (OECD, 2020[6]), specially in the transport planning area (OECD, 2020[33]). MENA countries should also further build on the UfM Guidance Framework for Sustainable Euro-Mediterranean Cities and Territories (UfM, 2013[34]) and the UfM Urban Agenda (UfM, 2017[35]). The following recommendations could be considered:

- **Promote accessibility** to services. MENA countries should include measures in their recovery packages that also promote better accessibility. Improving public transport is essential, but should not be considered in isolation from housing and land-use planning.
- **Build green and smart cities** capable of moving to a low-carbon economy that promote better livelihoods and health of citizens. Smart cities initiatives leverage digitalisation to deliver more efficient, sustainable and inclusive urban services and boost citizens well-being (OECD, 2020[36]), (OECD, 2021[37]). Many cities in the OECD area are going beyond a technology supply-driven approach that used to prevail in the past and are adopting a human-centric approach to advance more sustainable urban development (OECD, 2021[38]). Public services such as real-time data, electronic city tolls, smart parking systems and an integrated smart network of electric-zero carbon transport options are examples of the way forward.
- **Promote net-zero carbon neighbourhoods** with green buildings and renewable energy; mixed land use which allows job-home proximity, incentivise inner-city/adjacent urban development (as opposed to suburban development); incentivise transit-oriented development. MENA countries could also look at examples in Tokyo, New York, Melbourne on how to transform central business districts (where offices are exclusively located) into mixed urban neighbourhoods with more housing, commercial functions.
- **Improving the quality and affordability of public transport,** via for instance integrated ticket system across modes of transport, and i**mprove the active mobility** (walking and cycling) as the last-mile connectivity, by creating dedicated spaces such as sidewalks, bike lanes and the necessary infrastructure for bicycle network. This involves also promoting local private initiatives in this direction, and appropriate regulation for the sharing economy.

- **Facilitate teleworking possibilities** as an opportunity for the development of municipalities and neighbourhoods in disadvantaged areas of MENA countries. The OECD has outlined guiding principles and policy recommendations for a smooth transition towards a sustainable teleworking model for people, places and firms (OECD, 2020[39]).
- **Promote national urban policies** that can provide municipalities with a long-term vision and mechanisms to vertical and horizontal coordination (OECD/UN-HABITAT/UNOPS, 2021[40]) and facilitate exchange and sharing between municipal actors and urban practioners of different cities, city-to-city partnerships between cities facing common challenges.

## Social cohesion and reduction of socio-economic gaps

Providing equal opportunities and basic needs to all citizens, regardless of their backgrounds, religions, ethnicities and social status is an increasing challenge for city planners and policymakers, as inequalities are steadily rising and represent threats to the stability and security of societies. Urban planners have the crucial task of facilitating the interaction and social mixing in the community by delivering well-connected and liveable urban patterns.

**The COVID-19 pandemic has aggravated existing socioeconomic vulnerabilities** with a disproportionate impact on the world's most vulnerable and marginalised communities, such as migrants, the poor, women, and the elderly. Women, for instance, account for 70% of the world's health and social care workforce dependent on physical interaction; and as a result of lower-paid jobs, they are more prone to adverse economic and social impacts than male workers (OECD, 2020[6]) (OECD/European Commission, 2020[1]). Also, people with already limited access to basic services and essential needs were more severely hit by social distancing measures and closures, with those in the informal sector losing an average of 60% of their income at the outset of the pandemic (ITF, 2021[24]) (Chapter 1 and 3). Moreover, as more people spend the majority of time, during the COVID-19 introduced containment measures, indoors, people had limited exposure to green spaces and reduced opportunities for social engagement which limits opportunities for developing social cohesion.

The untapped potential to rethink urban planning to improve social cohesion should not be underestimated. In the context of the broad MENA region,

- Home to a large group of refugees from Syria, Iraq, and the Palestinian Authority, Amman faces challenges in maintaining social cohesion due to the lack of capacity to absorb this urban growth with unique ethnic mixtures (International Centre for Migration Policy Development (ICMPD), 2018[2]). The significant influx of migrants and refugees towards urban centres, for instance, has placed further pressure on local authorities' ability to adequately plan for sustainable urban development and provide efficient infrastructure, resulting in prominent socio-spatial divisions based on economic and wealth distribution.
- In Cairo, over two thirds of the city's population resides in informal areas, acting as a major barrier to Egypt's ability to deliver equitable social, economic, and environmental benefits to its residents (Jaad and Abdelghany, 2021[41]). The inability to control city growth can nurture various urban issues, e.g. formation of slums or informal settlements by urban centres, lack of infrastructure services (clean water, sewage, transport), and vulnerability to epidemic diseases.

Although population density (people per sq. km of land area) has been increasing by approximately 1.8% a year since 2015 (World Bank, 2020[42]), many cities have failed to capitalise on their population sizes and densities by not sufficiently investing in public transport systems and roads (FES, 2020[43]). Poor urban metro and bus networks increase the private use of cars, creating urban congestion. Density plays an important role in resource consumption, as it also increases the potential of other economies of scale, as

for instance efficient heating and/or cooling of buildings, decreases the use of materials and the cost of infrastructure.

### *Changing use of public spaces as an opportunity for reimagining the neighbourhood for people*

Urban spaces can be critical instruments in increasing social cohesion, yet they are often underutilised. The crucial need for this reignited emphasis on proximity was further made evident during the COVID-19 pandemic, as social distancing and restrictions on movement naturally pushed confined populations to reduce the scope of their activities, if they could. This has created a newfound emphasis on neighbourhood life and life in localised urban areas in general. The way city dwellers now use public space and local facilities has changed dramatically in many cities - and potentially in the long term.

In the MENA economies of the UfM, public spaces have been rapidly adapted to support emergency services through the provision of temporary hospitals, warehouses and other facilities that have helped to improve the response capacity of neighbourhoods.

### *Policy considerations*

A lesson from the pandemic is that a new, long-term approach to urban planning should be envisaged to realise better and more equitable distribution and access to health services, while promoting healthy and active lifestyles. The potential increase in teleworking and the consequent reduction in travel needs, as well as the emergence of innovative urban mobility pathways, are likely to create a growing demand for local and easily accessible services and facilities. In order to improve social cohesion and the reduction of socio-economic gaps, MENA countries could consider the following recommendations:

- **Ensure equitable opportunities and services** by ensuring proximity between facilities, transport, places of employment and housing, accessible for all citizens from different social groups and different locations across the city. Moreover, there should be different affordable housing types for different social groups provided. The cost of living and housing affordability drives certain groups into different areas of cities. The transport infrastructure plays a crucial role, not only in how people commute, but also in what populations come into contact with each other in their daily lives.
- **Capitalise on common interests of residents living in certain areas of a or within a city.** Some identities and activities around entertainment, food and family are embraced universally. This could also take place in the spaces and moments between different activities, as spontaneous interactions are more likely to happen in these circumstances. This makes slightly congested, intensely used spaces, as markets, that overlap with novel activities the most conducive space for social cohesion.
- **Create urban green spaces as a tool to foster social cohesion**. Urban green spaces, referring to areas as gardens, parks, greenways and other areas with grass and trees, may support and positively influence the social fabric of urban areas in a variety of ways (Jennings and Bamkole, 2019[44]). Urban green spaces afford opportunities for people to get outdoors and interact with nature and others in ways that may not occur in other settings. Various health promoting behaviours in urban green spaces may cultivate social cohesion and vice versa. Nevertheless, the level of engagement within the green space can vary based upon qualities of the green space, the intended use, and an area's overall social context.
- **Shift to proactive planning that fosters resilience,** in order to respond to future scenarios. The traditional tasks of urban planners in managing land use to provide services and needs are no longer enough to cope with the complex and massive growth of cities. In a world that is constantly changing, a more adaptable and responsive approach is needed. This process should also facilitate **participatory approaches in city-planning**, which is crucial for fulfilling equality among

citizens, as participatory planning enhances people's sense of belonging and social inclusion of all members of society.

## Multimodal transport network for people and trade

The broad MENA region spent between 3% and 5% of GDP annually in infrastructure in the last decade, mainly focusing on ports and airports. This spending was higher than in Latin America, Europe and Central Asia, but lower than in South Asia and East Asia. Important recent initiatives in the logistics sector were realised in Egypt, which has built the second line of the Suez Canal, and Morocco, which has significantly developed the Tangier Med port, enabling the creation of a modern trans-shipment centre, e.g. the Tangier Free Zone now covers 400 ha.

However, the region has seen a lack of investments in cross-border road and rail projects and the integration of transport infrastructure in the MENA region remains limited (OECD, 2021[45]). Also, despite the achievements, the quality and quantity of transport infrastructure in the MENA region still suffers from structural weaknesses (Figure 5.3). According to the Logistic Performance Index, Egypt ranked 60th of 167 countries in 2018, Jordan 76th, Morocco 87th, Tunisia 104th and Algeria 107th.

### Figure 5.3. Logistics Performance Index in the MENA region, 2018

Score from 0 to 5 (best)


Note: LPI 2018 ranks countries on six dimensions of trade , covering customs performance, infrastructure quality, and timeliness of shipments. Data for the ranking are based on surveys of logistics professionals who are asked questions about the foreign countries in which they operate.
Source: World Bank, Logistics Performance Index, https://lpi.worldbank.org/

Face to the pre-existing deficiencies of the transport infrastructure, the impact of the pandemic containtment measures on transport and logistics varied across transport sectors.The disruptions due to the pandemic directly impact global supply chains and their underlying transport networks (OECD, 2021[46]). The closure of borders and the introduction of multiple safety restrictions and protocols limited the movement of people and goods. Between 4 and 11 June 2020 data for 97 land crossing points, 66 airports and 42 blue border crossing points, in the broad MENA region, indicate that around 65% of airports were fully closed and 30% were partially operational. 60% of land crossing points were closed, and only 37% partially operational. Furthermore, 60% of blue borders were closed and 33% remained partially operational (IOM, 2020[47]). The constrained transport activity also inhibited the delivery of essential goods in the broad MENA region to fight the pandemic, as for example medical equipment, personal protection gear and medicine (ESCWA; UNCTAD, 2020[48]). To ensure the arrival of essential goods, as medical equipment, trade facilitation measures were introduced by some countries.

The Covid-19 crisis did not stop **road freight transport**, even though some land borders were entirely closed. Some land borders remained open to carry essential goods, even to remote areas. However, road transport is estimated to have faced a 20% drop in activity during the various confinements in the broad MENA region in 2020 compared to 2019, which is equivalent to a loss of about EUR 22 billion. Overall, global losses for the goods road transport sector are expected to reach 347 billion USD in 2021. (IRU, 2021[49]). In order to further enable transport and trade, despite the confinement measures, many countries introduced safety measures such as changing trucks, sterilising goods, and imposing quarantine measures upon arrival (ESCWA; UNCTAD, 2020[48]).

For **maritime transport**, the number of calls by most types of vessel decreased considerably in the first half of 2020. The most significant decreases in vessel calls were for Roll in /Roll out (Ro-Ro) vessels (with a drop of 12.8%) and passenger vessels (with a drop of 18.3%). In the MENA region, Morocco experienced the largest drop in port calls with the pandemic, while Mauritania was the only country that recorded an increase, due to the rising number of tankers arriving in 2020. Maritime freight transport has shown some resilience despite vast adjustments introduced by ports and shipping companies, as the prioritisation of essential services and the reorganisation of operations and working conditions due to safety and sanitary protocols as well as a stronger reliance on digitalisation strategies (ESCWA; UNCTAD, 2020[48]). Within the third-quarter of 2019 and 2020, liner shipping connectivity improved compared to the same period in 2019, except for Kuwait, Lebanon, Mauritania, Syria, and Tunisia. Maritime transport further recovered during the second half of 2020 and into the first half of 2021. The rapid improvement of the maritime transport sector in many countries can be partially explained because of investments, including investments in dry-port projects that countries in the region are setting up, namely in Egypt and Jordan (OECD, 2021[45]).

The **air transport** sector was the most severely affected by the COVID-19 pandemic, as losses from movements of passengers impacted seriously the air transporters revenues. The number of passenger flights dropped by 53 % in the first six months of 2020 compared with the same period in 2019. According to the International Air Transport Association (IATA), international airline profitability averaged about $8 per passenger in the previous five years. Due to the COVID-19 pandemic, this has dropped to net losses of $73.2 per passenger in the Middle East (International Air Transport Association, 2021[50]). It is estimated that total revenue losses of airline companies in the Arab region are around $38 billion in 2020 (ESCWA; UNCTAD, 2020[48]). These developments severely impact MENA economies, as the aviation industry is of major importance, with three Maghrebian companies (Royal Morocco, Air Algérie and Tunisair) ranking among the 10 largest African companies.

### Table 5.2. COVID-19 impact on air transport (2020 compared to 2019)

| | Estimated impact on air traffic in 2020 | | | Total Job losses in 2020 (million) estimations | | |
|---|---|---|---|---|---|---|
| | Traffic capacity | Passenger | Revenue (USD) | Best-case | Baseline | Worst-case |
| Middle East | -60% | -132 million | -22 billion | -2.7 | -3.4 | -4.9 |
| Africa | -58% | -78 million | -14 billion | -7.6 | -10.9 | -17.4 |
| Europe | -58% | -769 million | -100 billion | -14.2 | -18.4 | -29.5 |

Source: (ICAO, 2021[51])

Globally, all airlines are confronted with liquidity issues and according to IATA, between 80 and 90 % of the world's aircraft fleet has not taken off due to the pandemic. Nevertheless, according to the IATA, Middle Eastern air carriers have witnessed a 6% increase in international cargo volume in August 2021 compared to August 2019, in order to compensate for the reduced cargo capacity usually provided by belly-holds of passenger air transport (ESCWA; UNCTAD, 2020[48]) (International Air Transport Association, 2021[52]). The pandemic is expected to have long-lasting implications on the aviation industry, with air travel not expected to return to 2019 levels before 2023 (ESCWA; UNCTAD, 2020[48]).

### *Transformation of the transport and logistics sector through digitalisation*

New technologies are boosting e-logistics and enabling smarter trade, with greater efficiency throughout the supply chain and increased visibility and transparency, allowing the movement of goods to be optimised and redirected to where they are most needed. Digitalisation should become one of the pillars of resilience against future crises, as an essential tool to gain security, efficiency and modal integration.

- **Tunisia**, for example, has joined a UNECE eTIR pilot project to modernise its transport systems and facilitate the digitalisation of trade. Under a UN mandate, the IRU (World Road Transport Organisation) manages the TIR, the only global transit system and an important trade facilitation tool. Governed by the TIR Convention and operational in 60 countries, TIR provides customs guarantees, allowing goods to move easily, safely and reliably across borders. The IRU's eTIR system and the e-CMR digital waybill are two tools that have been widely recognised for their potential to support economies in the recovery from the COVID-19 crisis.

Before the pandemic, efforts to push the transport sector into the 4th industrial revolution were making steady progress. The COVID-19 crisis gave it a new momentum. As the digitisation of transport progresses, cooperation between governments will also naturally and mechanically become more important in order to effectively manage the huge amount of data produced.

The digitalisation of ports in particular seems to be a topic for the future in the post-Covid economic recovery and international cooperation in trade and transport. The digitisation and dematerialisation of port processes has been a crucial step in enabling the sector to meet the challenge of managing the pandemic.

- In **Morocco,** the pandemic crisis revealed the importance of the strategic choice of the Moroccan National Ports Agency to digitise port processes in 2008 through the implementation of PORTNET, which has become the single window for foreign trade procedures. During the crisis, the Moroccan port sector showed strong resilience and agility by adapting its various operational processes. Moroccan ports were the only border point that remained operational after the closure of airports and land borders during the lockdown.

### *Policy considerations*

The disruption in trade and transport by the pandemic has highlighted the crucial need of keeping transport networks open, also in times of crisis, in order to deliver essential goods and to maintain trade flows. To leverage infrastructure and increase growth and competitiveness, and in order to recover from the

pandemic, it is important for MENA countries to further develop multimodal transport networks for people and trade. Building on UfM's Regional Transport Acton Plan 2014-2020 (UfM, 2013[53]), policymakers could:

- **Promote digitalisation to support a sustainable and efficient transport and logistics sector,** build resilience and reduce emissions. Investing in resilient infrastructure yields substantial socio-economic benefits, as it reduces infrastructure disruptions, caused by natural hazards and poor maintenance. To this end, processes and procedures taking advantage of digitalisation and automation should be further enhanced. For instance, customs automation could be further promoted, as in Tunisia, by adopting contactless procedures in transport such as eTIR and eCMR. Moreover, single windows could be established which enable traders to communicate electronically with all agencies involved and fulfill trade related regulatory requirements.
- **Remove unnecessary regulatory obstacles to transport and trade** as well as to accelerate the post-pandemic recovery. Leverage trade and transport facilitation measures to ensure business continuity during disruption (ITF/OECD, 2020[54]).
- **Work to close or at least reduce the existing infrastructure gaps between the two shores of the Mediterranean**, through the development of the South-South interconnection as concerns land, air and maritime transport, as well as multimodal corridors. The private sector should be involved in the financing efforts to build affordable and resilient trasport and logistics infrastructure.

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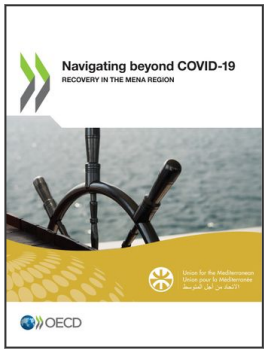
## Notes

[1] In this chapter, MENA region or MENA countries refer to the group of countries that are members of the Union for the Mediterranean. These countries are: Algeria, Egypt, Jordan, Lebanon, Mauritania, Morocco, Palestinian Authority and Tunisia. Where the term “broad MENA region” is used, it refers to the group of MENA countries that include UfM and non-UfM members.

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