New Transport Challenges in the Western Mediterranean in the Wake of Covid-19: Policies, Uncertainties and Tools

Jordi Selfa Clemente
Senior Analyst

Alberto Palacios Cobeta
Technical Director
Centre for Transportation Studies for the Western Mediterranean (CETMO), Barcelona

In 2020, transport in the western Mediterranean was undeniably impacted by the outbreak of the Covid-19 pandemic. Population lockdowns, the need to ensure health safety in operations for both passengers and workers, and the changed production and consumption patterns resulting from the unexpected situation have subjected transport and logistics to a genuine stress test to adapt to the new scenarios and contingencies.

Freight transport has largely adjusted to the new conditions. Although in the first few months of the pandemic, activity in the flows between the two shores of the Mediterranean declined, by the end of the year, the volumes being handled had bounced back. In contrast, months into the pandemic, passenger flows remain far below the levels of previous years, when they have not dried up altogether.

However, in addition to the direct effects of the pandemic on these flows and their organization, 2020 abruptly exposed the real and continuous process of transformation that transport has been undergoing for years and will continue to face in the future. **The energy transition, process digitization, and the ability to adapt to disruptive events**, already on the agenda of decision-makers in the past, took on renewed importance in 2020. These three processes – energy transition, digitization, and adaptation to disruptions, especially, in this latter case, to the effects of climate change – are emerging as a new paradigm that will guide transport planning in the coming years. Yet all three processes are subject to high levels of uncertainty. In the western Mediterranean, the need to consider the elements of this new paradigm in transport planning is even more important, if possible, due to the region's position in global supply chains, the still incomplete process of economic integration between the two shores, which retain highly different levels of development, and the projected effects of climate change, which indicate that the Mediterranean Basin will be one of the most heavily affected regions. This context calls for new policies – in many cases, already outlined – but also new tools for planning and action capable not only of taking into account the various spaces, scales, and development levels at which transport flows and the related infrastructure are inserted in the western Mediterranean, but also of managing the foreseeably high levels of uncertainty.

Decarbonization, Digitization and Adaptation: Challenges and Uncertainties

As noted, parallel to the evolution of the pandemic and the adaptation of transport to keep supply chains running at the most critical times, the planning and forecasts for the "new normal" clearly reflect the transformation process that the transport and logistics sector is facing. Proof of this process of accelerated change can be found in both communications of the European Commission explaining the need for major changes in how transport is organized and the revision of the Trans-European Transport Network, begun in April 2019, as well as in a range of other initiatives, plans and processes already underway from previous years. In this con-

text, three vectors can be identified as the driving forces of these changes. The decarbonization process, the digitization of transport and society, and the need to adapt to new disruptions, especially those arising from climate change.

The decarbonization of transport had already begun prior to the onset of the health crisis and had been included in transport measures and planning. In fact, the EU's European Green Deal,[1] published in late 2019, and its Sustainable and Smart Mobility Strategy,[2] from December 2020, simply redouble its ambition to achieve the reductions in greenhouse gas emissions to which it committed under the 2015 Paris Agreement. This ambition is reflected in the proposal to achieve climate neutrality by 2050, a 55% reduction in greenhouse gas emissions by 2030 compared to 1990 levels, and, specifically in the case of transport, a 90% reduction in CO_2 emissions by 2050. The strategy is based on making all modes of transport more sustainable, accepting that all must contribute to future mobility, making sustainable alternatives more generally available, and providing suitable economic incentives, especially through the integration of external costs.

South-western Mediterranean countries are in a similar situation, albeit with different levels of ambition and measures, in keeping with their situation. In Morocco, for instance, the proposed reduction in greenhouse gases is 17% compared to the projected emissions for 2030 in a business-as-usual scenario. The measures largely focus on actions related to the vehicle fleet, urban transport, and improved logistics efficiency.[3] The Maghreb countries' development prospects – especially the growth of urban areas, the degree of informality in the transport sector, and the lack of access to financing – are obstacles to progress on more ambitious decarbonization processes.

Targets have also been set for reducing greenhouse gas emissions in relation to maritime transport, an essential mode of transport for flows between the two shores of the western Mediterranean. Specifically, the initial emissions reduction strategy adopted by the International Maritime Organization (IMO) in April 2018 proposes a reduction of at least 40% by 2030, and of 70% by 2050, compared to 2008 levels.[4] In parallel, although not directly linked to climate change mitigation, it has been proposed that the Mediterranean be designated an Emission Control Area[5] in order to reduce air pollution. All of this will entail the adoption of new energy technologies on ships, which will require changes not only to the ships themselves, but also to energy supply infrastructure at ports.

The Maghreb countries' development prospects – especially the growth of urban areas, the degree of informality in the transport sector, and the lack of access to financing – are obstacles to progress on more ambitious decarbonization processes

As the need to decarbonize transport has become apparent in recent years, a new technological paradigm has emerged in the production and transport sectors based on digitization. It consists of the adoption of innovative – and now sufficiently mature – technologies capable of transforming many of the processes linked to transport, from the driving of all types of vehicles to the management and exchange of information and documents. Digitization also entails major changes in the production and consumption processes of the system itself

[1] European Commission. *The European Green Deal*, COM(2019) 640 final. https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM%3A2019%3A640%3AFIN.

[2] European Commission. *Sustainable and Smart Mobility Strategy – putting European transport on track for the future*, COM(2020) 789 final. https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM%3A2020%3A789%3AFIN.

[3] ITF. "Decarbonising Morocco's Transport System: Charting the Way Forward," *International Transport Forum Policy Papers,* No. 89. Paris: OECD Publishing, 2021. See also: Royaume du Maroc. *Contribution Déterminée au niveau National dans le cadre de la CCNUCC*. Rabat, 2016.

[4] IMO. *Initial IMO Strategy on Reduction of GHG Emissions from Ships*. Resolution MEPC.304(72), 2018.

[5] IMO. *Initial Draft Submission to the International Maritime Organization Entitled "Proposal to Designate the Mediterranean Sea Area, [or Parts Thereof,] as an Emission Control Area for Sulphur Oxides [and Particulate Matter]."* REMPEC/WG.45/INF.10, 2019.

and, thus, in its logistics organization. The European Commission highlighted the opportunities posed by the incorporation of these technologies into transport in its communication on the Sustainable and Smart Mobility Strategy, which considers the need to leverage digital solutions and smart transport systems to dramatically improve the functioning of the entire transport system, including its environmental aspects. It also emphasized the need to put measures into place to enable favourable conditions for the adoption of these technologies, amongst which data availability, access and exchange are key.

This is also reflected in the process being undertaken, at the time of writing, to revise the Trans-European Transport Network.[6] One of the current identified problems is the network's lack of preparedness for the adoption of technological changes, as infrastructure planning has traditionally focused on physical aspects and the need for new structures to enable the deployment of automation and other innovative technologies in the field of transport.

The countries on the southern shore also consider digitization to be key to the development and well-being of their societies in general and of transport in particular.[7] However, the process of digitization and the adoption of new technologies in both the Maghreb and Africa as a whole will require major efforts to train human capital, prepare businesses, and provide financing.[8]

Still, if 2020 has shown us anything, it is society's and, in particular, the transport sector's exposure to disruptive situations. The emergence of Covid-19 required a process of rapid adaptation of the transport system to unexpected situations that dramatically altered how things had worked until then. The need to adapt the transport system to potential new disruptions is even clearer in light of the potential effects of climate change. Indeed, the Intergovernmental Panel on Climate Change's report on the oceans and the cryosphere,[9] as well as the first report on its specific effects in the Mediterranean,[10] shows the impact that upticks in extreme weather events in the coming years could have on infrastructure, operations and services in the Western Mediterranean and ranks the Mediterranean as one of the regions most affected by the increasing frequency of such phenomena.

If 2020 has shown us anything, it is society's and, in particular, the transport sector's exposure to disruptive situations. The need to adapt the transport system to potential new disruptions is even clearer in light of the potential effects of climate change

The need to put adaptation measures into place is included in the EU Strategy on Adaptation to Climate Change from February 2021,[11] as well as in several sectoral proposals on the various modes of transport drawn up in recent years that stress preparedness for adaptation, assessment of climate risks and vulnerabilities, the identification of and options for adaptation, and their assessment, implementation and monitoring.[12] Growing knowledge and awareness of the possible effects and adaptation options clearly make the dissemination and

[6] Revision of Regulation (EU) No 1315/2013 of the European Parliament and of the Council on Union guidelines for the development of the trans-European transport network.

[7] La Vie Eco. *Transport: la crise du covid-19 impose une digitalisation accrue.*2019. Accessed 30 April 2021 at: www.lavieeco.com/actualite-maroc/transport-la-crise-du-covid-19-impose-une-digitalisation-accrue/.

[8] African Development Bank Group. *Unlocking the Potential of the Fourth Industrial Revolution in Africa*. AfDB, Abidjan, 2019.

[9] IPCC. *Special Report on the Ocean and Cryosphere in a Changing Climate*. Intergovernmental Panel on Climate Change, 2019.

[10] MedECC. *Risk associated to climate and environmental changes in the Mediterranean region*, 2019. See also: Cramer, W. et al. "Climate change and interconnected risks to sustainable development in the Mediterranean." *Nature Climate Change*, No. 8, p. 972-980. Available at: http://dx.doi.org/10.1038/s41558-018-0299-2.

[11] European Commission. *Forging a climate-resilient Europe – the new EU Strategy on Adaptation to Climate Change.* COM(2021) 82 final.

[12] Examples for modes of transport include: UIC. *Rail Adapt*. Paris, 2017. Available at: https://uic.org/IMG/pdf/railadapt_final_report.pdf; PIANC. *Climate Change Adaptation Planning for Ports and Inland Waterways*. Brussels, 2020; PIARC. *Refinement of PIARC's International Climate Change Adaptation Framework for Road Infrastructure*. Paris, 2019.

sharing of information and knowledge amongst the various stakeholders vital. This is even more essential in the Mediterranean, where these stakeholders share common challenges and threats.

The energy transition, the digitization process, and adaptation to climate change and other disruptions are the three vectors that are shaping and will continue to shape in the immediate future the transformation of the transport and logistics sector. These processes are highly uncertain themselves in terms of the form, pace, and intensity they will take on at different time horizons. On a western Mediterranean scale, they must be considered in context (sharp social and political contrasts, as well as with regard to financial capacity) and efforts must be made to cooperate globally and regionally in planning the actions to be taken to address them. Otherwise, the transport and logistics systems on each shore could evolve in clearly divergent ways, which would even further complicate the already difficult process of Mediterranean integration.

New transport planning needs and tools

In this context, there is a need to search for and develop appropriate tools to deal with the challenges and uncertainties posed by a transport system, such as the western Mediterranean one, that could potentially diverge between the two shores if an integrated approach is not taken. Certain premises must be taken into account in order to frame planning needs in terms of the western Mediterranean as a whole, namely:

— Coordination of logistics chains, whose different segments must no longer be considered independent: coordination needs for information flows, the energy transition, etc.
— Structures for coordination and cooperation between infrastructure and service operators to adapt to changes in ways that enable joint responses to shared challenges: responses to disruptions or adaptations, the ability to share information and define strategies, and joint policies.
— A regional governance system capable of intercontinental and international, but also interscale and intermodal integration.

In this regard, one tool for transport planning and governance is multimodal corridors, since they enable the adoption of different kinds of measures, technologies and solutions of varying scales across the infrastructure used to channel the major logistics chains, flows and transport routes, whilst also facilitating coordination between different territories and other corridors.

This has been the case, for example, of the European Union in the development of the Trans-European Transport Network, in which the core network's corridors are defined thusly:[13]

> "42. *In order to implement the core network within the given time scale, a corridor approach could be used as an instrument to coordinate different projects on a transnational basis and to synchronise the development of the corridor, there by maximising network benefits. […]. Core network corridors should help to develop the infrastructure of the core network in such a way as to address bottlenecks, enhance cross-border connections and improve efficiency and sustainability. They should contribute to cohesion through improved territorial cooperation.*
> *43. Core network corridors should also address wider transport policy objectives and facilitate interoperability, modal integration and multimodal operations. This should allow specially developed corridors which are optimised in terms of emissions, thus minimising environmental impacts and increasing competitiveness, and which are also attractive on account of their reliability, limited congestion and low operating and administrative costs. The corridor approach should be transparent and clear and the management of such corridors should not create additional administrative burdens or costs."*

In keeping with these two articles of the EU regulation, the figure of a corridor coordinator is es-

[13] Regulation (EU) No 2013/1315 of the European Parliament and of the Council of 11 December 2013 on Union guidelines for the development of the trans-European transport network and repealing Decision No 661/2010/EU.

tablished to "facilitate measures to design the right governance structure and to identify the sources of financing, both private and public, for complex cross-border projects for each core network corridor."

The emergence of Covid-19 also served to underscore, if not accelerate, a series of transformations and mutations facing the transport and logistics sector in the coming years

In a similar strategy, UNCTAD[14] promotes trans-African road corridors as development tools for the continent's countries. Although the efforts are mostly focused on the completion of often non-existent physical infrastructure, tools for corridor governance and management are nevertheless considered key to achieving the full implementation of regulations, policies, information technology, harmonization and simplification of information exchanges. All, it must be recalled, in a completely different political and social and economic development context from that of the European Union.

One of the corridors that UNCTAD is considering is the Cairo-Dakar corridor, which runs along the entire southern Mediterranean coast and part of the African Atlantic to the capital of Senegal. This road infrastructure is part of the Trans-Maghreb Multimodal Corridor, defined by the UMA in the 1980s and promoted by GTMO 5+5, which is the cornerstone for ensuring overland trade between the countries of the region. The efforts of the last few decades have considerably modernized the land infrastructure, and much of the road and rail network is now high-capacity. Nevertheless, important missing links must still be addressed – especially at the cross-border sections – for continuous infrastructure between the countries to be achieved. A more extensive modernization of the network of ports and terminals for modal interchange is also needed, since, despite the development of new infrastructure, some ports still lack the necessary infrastructure to manage current flows.

The modernization of this corridor's infrastructure, as well as its operation, management and governance, is vital to the process of transforming transport in the Maghreb. Its development can largely ensure the capacity needed for the Maghreb countries to successfully tackle the decarbonization, digitization and adaptation processes already underway in the transport sector. Success in the adoption of these processes will depend on the optimal insertion of the Maghreb transport system into regional and global logistics chains and flows, especially those linking North Africa and the European Union. In this regard, it is essential to put into place adequate planning mechanisms that make it possible to establish the Trans-Maghreb Corridor as an infrastructure inserted on equal technical footing in other broader networks. Hence the need to conceive of the corridor as a planning and coordination unit for various measures affecting different spaces, scales, modes or technologies.

The challenges of achieving this conception of the trans-Maghreb corridor as a planning and coordination tool are considerable. For instance, unlike in the European Union, there is a lack of political integration amongst the Maghreb countries. But the challenges involved in effectively adapting the corridor to the new conditions required by transport are no less daunting. In addition to the uncertainty surrounding technological developments related to decarbonization, digitization and the effects and pace of climate change, the process will require financing that the countries are unlikely to be able to provide.

The European Union's aim of becoming a global leader in the process towards sustainability, expressed in the European Green Deal through, amongst other measures, technical and financial cooperation with its neighbours to the south and with Africa as a whole, must make the transformation of the Maghreb transport sector one of its main pillars. This is also reflected in the Sustainable and Smart Mobility Strategy, which recognizes transport as a key sector in the neighbourhood policy and

[14] CNUCED. *Etude régionale sur la Promotion et la Commercialisation du Corridor Routier Transsaharien (RTS), son évolution vers un Corridor Economique et l'établissement d'un Mécanisme de Gestion pertinent.* 2021. Draft.

sets out the intention to strengthen this policy by providing technical support and cooperation and expanding the Trans-European Transport Network. This latter element is seen as key to the extension of European transport policies to its Mediterranean neighbours and, especially, the Motorways of the Sea, which are part of the Trans-European Transport Network. The extension of this network and consideration of relations with the Trans-Maghreb Multimodal Corridor must contribute to the transmission and structuring of instruments, tools, technologies and solutions, including financial ones, as similar as possible to those used in the European Union. This orientation in the area of transport towards the Maghreb and, by extension, towards Africa as a whole should be the guarantee that the transport systems on the two shores of the Mediterranean do not develop in divergent directions in the coming years in a way that would pose a new obstacle to Euro-Mediterranean integration and hinder improved relations with the rest of Africa.

Conclusions

The emergence of Covid-19 in 2020 not only disrupted logistics and supply chains and passenger flows, but also served to underscore, if not accelerate, a series of transformations and mutations facing the transport and logistics sector in the coming years. Decarbonization, digitization, and adaptation to climate change and other possible disruptions are the three vectors of important transformations, processes that are themselves subject to high degrees of uncertainty. Whilst a variety of policies and instruments exist to satisfactorily cope with and adopt these processes, not all countries are in a position to implement them equally and at the same pace. In the case of the western Mediterranean, the political, social and economic differences between the two shores could lead the development of their respective transport systems to diverge so substantially that it ends up preventing their integrated operation, for both freight and passenger flows between the Maghreb and the European Union. Whilst the latter has equipped itself with instruments that allow it to vie for global leadership in the promotion of these processes, the Maghreb countries, despite their ambitions, lack the technical and financial means needed to develop them to the same level as the European aspirations.

In this context of systemic disruption, with great uncertainties with regard to the pace, technologies, impacts and evolution, the operation and adaptation of transport and logistics requires enhanced cooperation and joint and coordinated planning tools. Transport corridors have emerged in both Europe and the Maghreb as appropriate tools for coordinating and managing the new challenges. The Trans-Maghreb Multimodal Corridor is not only an infrastructure that must guarantee the flows between the countries it crosses, but also a planning and coordination tool for the transport sector's transition. For this to work, right now the various European transport policies must include technical and financial support for this infrastructure. Otherwise, new obstacles between the two shores of the western Mediterranean could arise as a result of transport systems on divergent technological paths.