



COVID-19 AND TRANSPORT A COMPENDIUM



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The International Transport Forum

The International Transport Forum is an intergovernmental organisation with 62 member countries. It acts as a think tank for transport policy and organises the Annual Summit of transport ministers. ITF is the only global body that covers all transport modes. The ITF is politically autonomous and administratively integrated with the OECD.

The ITF works for transport policies that improve peoples' lives. Our mission is to foster a deeper understanding of the role of transport in economic growth, environmental sustainability and social inclusion and to raise the public profile of transport policy.

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Foreword

It is with great pleasure that I present this Compendium of ITF work on Covid-19 and Transport which contains key ITF analysis aimed at assisting our member countries as they confront the Covid-19 crisis in the transport sector.

A global health crisis of the magnitude we are experiencing has not struck the international community for over a century. In this unprecedented crisis, all countries and all areas of our daily life are profoundly affected and in disarray.

The transport sector finds itself in a totally unprecedented situation. One of its chief roles in society is to enable citizens to meet face to face; it is perhaps the main facilitator of social interaction. Now, that function has come to a halt as result of the restrictions in place around the world. At the same time, transport must continue to function where moving people and goods is an imperative, not a choice. International supply chains must continue to move as seamlessly as possible to limit the inevitable economic impact as much as possible.

It is a paradigm shift. Never before have world leaders put such constraints on the movement of people and goods. Now decisions have to be made on how to run transport services within these constraints and how to help the sector survive this difficult time.

The transport sector as a whole is responding with compassion and creativity to the Coronavirus crisis. While we deal with the crisis in the most effective way, we must start to think about the future and plan for the post-pandemic age. Many and profound changes will be forced upon us. We do have the knowledge and the tools to shape them, and to seek out the opportunities in this epochal transformation, but we must make the right choices.

Solutions to overcome the crisis and mitigate its impact must be found across transport modes and across economic sectors. The time of silos is over. Since the beginning of the Covid-19 crisis, the ITF has served as a global platform for sharing information and policy insights on the transport sector's responses to Covid-19-related challenges. The ITF continues to carry forward the global policy dialogue for better transport, and help governments to build an evidence-base for better decisions in these difficult times.

This Compendium will serve as a practical guide for not only our member countries but also for the wider public and stakeholders tackling the Covid-19 crisis.

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Young Tae Kim Secretary-General International Transport Forum

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The Covid-19 crisis has profoundly affected all spheres of our private and public lives, including how we travel and how goods reach their final destinations. During the first phases of the pandemic, closing of borders and national lockdowns significantly reduced passenger and, to a lesser extent, freight traffic. As confinement periods ease, physical spacing imperatives and quarantine requirements have drastically reduced available transport capacity, both within cities as well as for regional and international travel. Moreover, fear of contagion has led many to avoid returning to public transport or taking long-distance trips. Both of these factors have compromised the financial viability of transport operators and transport systems.

The Covid-19 crisis in the transport sector necessitated a strong policy response from governments. First, governments reacted to the pandemic by ensuring that transport networks were organised in a way that would limit the spread of the virus. Second, they devised plans and support programmes to help the transport sector reboot mobility during the pandemic. Finally, as the world recovers from the pandemic, governments will need to focus on how to reshape the transport sector to provide connectivity in a safe, sustainable, resilient, and inclusive way.

Since the beginning of the Covid-19 crisis, the ITF served as a global platform for sharing information and policy insights on the transport sector's responses to Covid-19-related challenges. The ITF published a number of briefs on key topics related to Covid-19, organised a series of closed webinars for member countries, and held a special informal Ministers' Roundtable on Transport and Covid-19. In addition, numerous exchanges between ITF and other international organisations have taken place on this topic, both in formal and informal settings.

This Covid-19 and Transport Compendium provides an overview of the main ITF work streams aimed at assisting our member countries with tackling the Covid-19 crisis in the transport sector. As such, the Compendium comprises ITF Covid-19 Transport Briefs, materials from all ITF Covid-19 webinars for ITF member countries, an overview of Covid-19 crisis measures in European road transport and a summary of Covid-19 recovery guidelines developed for freight transport in the ASEAN region¹.

This Compendium includes eleven briefs first published on the ITF Covid-19 special webpage. To date, the ITF Secretariat has organised six special Covid-19 webinars for member countries focusing on urban mobility, transport data, supply chain management and freight logistics, aviation, gender equality, and infrastructure investment. This Compendium provides a summary of each of these webinars².

An overview of the Covid-19 measures in road freight transport introduced by each of the 43 European ITF/ECMT member countries and published on the ITF website is also provided.

¹ The ITF also published "A Compendium of ITF Corporate Partnership Board Initiatives" summarising how ITF's corporate partners are helping in the fight against Covid-19. It is available on the ITF website: www.itf-oecd.org/private-sector-companies-fight-against-covid-19.

² As each of the webinars was organised under the Chatham House Rule, the Compendium includes a summary record from each webinar, without attributing quotes to their authors. Lists of participants and expert keynote presentations are also shared, while the country presentations that were delivered during each webinar remain confidential.

Moreover, the ITF has collaborated with other international organisations to address Covid-19 challenges. This Compendium concludes with the summary of "*The COVID-19 Recovery Guidelines for Resilient and Sustainable International Road Freight Transport Connectivity in ASEAN*", developed by the ASEAN Transport Facilitation Working Group (TFWG) with joint assistance from the United Nations Economic and Social Commission for Asia and the Pacific (ESCAP) and the ITF. The Guidelines follow the ESCAP-ASEAN-ITF joint webinar on "*Preserving Transport Connectivity and Building Freight Transport Resilience in ASEAN*" in July 2020, and are designed to support ASEAN member states by fostering the collection and sharing of knowledge, lessons learned and experience from the Covid-19 pandemic directly or indirectly related to transport connectivity and road freight transport resiliency. Although the Guidelines were developed specifically for ASEAN member states, many of the principles will also apply to ITF member countries.

The ITF-led debate on Transport and Covid-19 will continue in the lead-up to and during the 2021 ITF Summit *Transport Innovation for Sustainable Development: Reshaping Mobility in the Wake of Covid-19* to be held in May 2021.



Covid-19 Transport Briefs



Transport policy responses to the Coronavirus crisis

Covid-19 Transport Brief, 6 April 2020

Which transport-related policies and measures help to maintain essential mobility for people and the transport of critical goods during Covid-19 pandemic while avoiding to further spread the Coronavirus? We provide a first non-exhaustive compilation.

Protect transport workers

Keeping transport personnel safe is critical for maintaining essential services. Teleworking is not an option for most transport workers. National and international authorities are providing detailed guidance on the use of personal protective equipment, hygiene best practices, social distancing measures, the handling of (suspected) Covid-19 cases, samples or human remains. Lessons learned in regions hit early in the pandemic are highly pertinent. Some include tracking of transport workers' journeys and contacts, the (video) monitoring of adherence to measures, providing training in correct sanitation practices, implementing social distancing also in communal staff spaces such as canteens, creating employee assistance and counselling programmes to ensure practical help and strengthen mental resilience.

Relax restrictions on operation of heavy goods vehicles

A major concern in the Covid-19 crisis has been assuring the distribution of essential commodities. With trucks delivering the vast majority of goods, many governments have relaxed restrictions on operating lorries. Limits on operation during weekends and public holidays have been suspended, restrictions on driving/rest times relaxed, and the validity of licenses and certificates extended. In some countries and cities, night-time bans on lorries have also been relaxed.

Keep borders open for freight with "Green Lanes"

With many frontiers closed to contain the spread of the coronavirus, border crossings have become critical points for the movement of essential goods. Waiting times due to tight border controls have reached unprecedented levels. Designating "green lane" border crossing points helps keep supply chains intact. In the European Union, controls on "green lane" inland border crossings should not exceed 15 minutes including health screening of transport workers. For transiting freight trucks, some countries are using a convoy system. For rail freight, trains and drivers are changed at some borders.

Exempt transport workers in international freight transport from entry prohibitions

Truck drivers, seafarers, and air crews need to continue to cross borders in order to keep supply chains intact. Healthy transport personnel engaged in the transport of goods are mostly excluded from entry prohibitions, but not always. Some countries ban foreign trucks from high-risk countries. In others, foreign trucks must unload cargo at the border and return immediately. In others still, foreign trucks can deliver freight but must leave the country within 24 hours. For transiting freight trucks, some countries are using a convoy system. Restrictions apply to embarking or disembarking seafarers and air crews, including the requirement to avoid stop-overs and to self-isolate during lay-overs. To facilitate travel to duty stations, the European Union has introduced a template certificate for international transport workers.

Channel cross-border travel via dedicated entry points

To enforce the entry restrictions for international travellers, many countries are redirecting incoming international flights to dedicated airports where they have concentrated capacity for carrying out border and health checks, while also limiting the exposure of personnel and the public to contagion. The same approach is applicable to ports and inland border crossing points. Capacity to handle passenger volumes while ensuring minimum contact among arriving travellers is critical.

Reduce crowding in public transport and pivot to supporting critical functions

Public transport implies proximity and therefore risk of contagion. It also provides essential mobility for critical workers. Measures thus aim to dissuade non-essential travel while ensuring safe use and maximum support for health and other essential workers. Many operators have reduced service by 50% or more. Enhanced hygiene protocols have been implemented. Maximum occupancy levels have been reduced. Barriers between drivers and passengers are common. Boarding is often only via the rear door of buses or trams. Online ticket sales and ticket validation on board have been suspended. Servicing all stops by default avoids the need for pressing signal buttons. Health workers can use public transport for free in many cities. Some have created special shuttle services for them.

Activate capabilities of the transport sector in non-traditional areas and ways

When the transport sector is hindered from using its full resources to provide mobility, the slack can be harnessed in creative ways for the combat against Covid-19. Rail operators have converted trains into rolling hospitals to distribute patients more evenly across a country, for instance. Automotive and aircraft manufacturers are reconfiguring production lines to manufacture urgently needed medical equipment, sometimes in unconventional partnerships. Grounded airline staff with first responder qualifications have been slated to take over support roles in the health system.

Leverage innovative forms of mobility

Emerging transport innovations can be useful in the current health crisis, even if not yet mainstream. Among the technology with the most potential in era of Covid-19 are automated vehicles and drones. These are already used, if on a small scale, for delivering supplies to high-risk groups or transporting infected persons. Drones can spray disinfectants, monitor social distancing behaviour and make public service announcements. Easing regulations to quickly scale up or allow the most targeted use of transport innovations is worth considering.

Use transport operator data to inform policy responses

App-based mobility companies and other data-driven businesses such as map and route planning services collect mobility data and have analytical capabilities that can support government decision-making. Such collaboration exists in a number of countries.

Weigh the benefits of cycling and walking in a pandemic against the risks

Different approaches exist with regard to active mobility, notably cycling, in the Covid-19 pandemic. Some authorities consider cycling non-essential and cyclists may face fines. Others encourage cycling as an alternative to sharing vehicles were the risk of contagion is high. Some cities have closed streets for cars and dedicated them to walking and cycling in order to provide adequate space for social distancing. Some bike-sharing systems offer free rides to medical and other essential workers, with some deploying additional bicycles and others offering free e-bikes. In some cases, free service extends beyond critical workers. Cycling also helps to keep citizens healthy while under mobility restrictions. A sedentary lifestyle increases negative health effects and cycling-related measures should be balanced for the best outcome.

Ensure the short-term financial viability of the transport sector

The drop in travel demand presents an economic challenge to operators across all modes. Most aircraft are grounded, many airports have come to a standstill. In cities, operators have reduced or discontinued service. Saving jobs and easing disruptions requires quick financial relief. Fiscal packages support hard-hit sectors, usually also transport, in many countries. Others provide sector-specific support, e.g. for airlines and urban transport. State guarantees for bank loans, employee salary grants, cash payments, and waived fees and payments all help. Subsidies need to be well-targeted and should not discriminate among operators. Services to regions struggling to maintain transport lifeline need attention.

How transport supports the health system in the Corona crisis

Covid-19 Transport Brief, 6 April 2020

The medical professions and their support teams are the front line in the combat against the Coronavirus. The transport sector can support them in many ways – some obvious, others less so. We offer a non-exhaustive compilation of initiatives from around the world.

- Automotive and aviation companies switch resources to developing and producing urgently needed ventilators and breathing aides (CPAPs) – <u>FR</u>, <u>UK</u>, <u>US</u>,
- Taxi and ride-sharing services offer free or discounted rides for medical workers; free rides for senior citizens for essential trips; mobilise vehicles for critical food and supply deliveries; offer free medical transport to low-income patients <u>AT</u>, <u>DE</u>, <u>FR</u>, <u>PH</u>, <u>US</u>, <u>US</u>
- Rail operators, public transport and bike-sharing schemes offer free or discounted rides for health workers – <u>FR</u>, <u>UK</u>, <u>UK</u>, <u>US</u>
- App-based mobility platforms disseminate government messages and updates related to Covid-19 (Grab, <u>BRA govt app</u>)
- Shared mobility operators, route planning services and other data-driven business provide mobility data and data analysis to governments (<u>Google</u>, <u>Grab</u>)
- Logistics firm provides end-to-end logistics for health authorities to set up Covid-19 testing centres US
- Rail operator uses converted train to transport Covid-19 patients from heavily afflicted regions to medical facilities with capacity reserves <u>FR</u>
- First-aid trained air cabin crews support health workers in temporary hospitals UK
- Drones spray disinfectant, make public service announcement, transport samples and deliver goods without human contact <u>CN</u>, <u>KR</u>, <u>SP</u>, <u>UK</u>
- Airlines use passenger jets to transport essential cargo Link
- Automated vehicles deliver medical supplies, spray disinfectants, transport meals for senior citizens and carry out other tasks without human contact – <u>CN</u>, <u>CN</u>, <u>US</u>, <u>US</u>
- Operator donates foodstuffs no longer needed for on-board provisioning to social services to the support vulnerable citizens <u>FR</u>
- Energy company provides hospitals and hospital staff with gasoline vouchers <u>FR</u>
- Software company waives fees for fleet provider using its platform helping service
- Covid-19 relief workers or food delivery systems Link
- Refrigerated trucks serve as temporary morgues in worst-hit areas Link

Electric mobility: Taking the pulse in times of Coronavirus

Covid-19 Transport Brief, 27 April 2020

The number of electric vehicles on the world's roads continued to grow in 2019. Early data for 2020 show that they will not be exempt from the impact of Covid-19 on the automotive market. But fundamental drivers suggest that the longer-term outlook for the EV market is likely to remain positive – if clean mobility remains a policy priority and economic stimulus packages reflect the role of e-mobility as a driver of broader innovation.

Consumers have adopted electric cars at a rapidly accelerating pace since the mid-2010s. By the end of 2019, the global electric car fleet exceeded 7.2 million units. This was up more than 40% on the previous year. Worldwide sales of electric vehicles in 2019 totalled 2.1 million units, above the record 2018 total. Figure 1 summarises the growth of the global electric car stock since 2010.

Behind this growth lies a mixed performance in different markets. In Europe, electric car sales increased, while they stagnated or declined in the other major markets. In China, the reduction of subsidies for electric vehicles (EVs) in late June 2019 led to a decline in annual EV sales. Japan and the United States also saw fewer EV being sold. In all world regions, sales of battery electric vehicles (BEV) exceeded those of plug-in hybrids (PHEVs). Figure 2 shows how sales of BEV and PHEV developed in major markets since 2015.



Figure 1: Global electric car stock by world region, 2010-19

Transport electrification encompasses a wide variety of vehicles. These range from small personal mobility devices used for urban trips – such as three-wheelers, mopeds, kick-scooters and e-bikes – via electric cars to buses and delivery vans. More than 300 million electric two-wheelers roamed the world's roads in 2019. The number of electric buses in service approached 600 000, with new deliveries in 2019 close to 100 000 units.¹



Figure 2: Global electric car sales by world region, 2010-19

Amid collapsing car sales, rising market shares for EVs

Covid-19 has led to a very significant decline in car registrations across all major automotive markets. Electric vehicles are not exempt from this but, so far, have been hit less severely.

In China, sharply reduced car production and sales are reported by the Chinese Association of Automobile Manufacturers (CAAM) for early 2020, with a decline for both of roughly 80% in February compared to the same month of 2019 and close to 50% in March.²

Similar drops were registered for Italy (a fall of 85% year-on-year in March), France (more than 70%) and Spain (almost 70%). In the United Kingdom, the car market contracted by 44% in March. It shrank by 38% in both Germany and the United States.³ In Japan and Korea, the market contraction was comparatively small, with a drop of 10% for Japan and 15% for Korea (passenger car sales) in March 2020 compared to the same month of 2019.⁴

Against this backdrop, the market share of EVs has continued to grow in the first months of 2020, at least in Europe.

Sales of BEV in the United Kingdom almost tripled in March 2020 compared to one year earlier. In Italy, they increased by almost 50% and by almost 20% in France. The EV market in Spain contracted by 44%, but this was less than the overall car market.⁵ In the United States, Tesla was estimated to see a 3% year-on-year sales increase.⁶

Plug-in hybrid vehicles also did comparatively well in the first months of 2020. In the United Kingdom, new PHEV registrations were up by 38% year-on-year in March. In Italy PHEV registrations fell by 16% and in Spain by 22%, but in both cases this was less than the overall car market.⁷ In China, the market dynamics were closer to the overall car market, with sales of BEVs falling by 75% and those of PHEVs 83% in February 2020.⁸

What will be the near-term impacts on e-mobility?

The freeze on virtually all activities of the automotive industry, practical constraints on the access to car retailers and deferred purchases due to Covid-19 are already leading to lower production and falling sales across the whole car market. A contraction is inevitable also for EV sales in the short run, possibly even in terms of market shares. A number of factors could contribute to such a development:

- The implementation of regulations and policies aiming at transport decarbonisation may be delayed. This was suggested by European car industry associations in a letter to the European Commission on 25 March, while a coalition of companies, cities and civil society organisations opposed postponing implementation in a letter dated 16 April.⁹
- There may be greater constraints for consumers to borrow capital may hamper electric car sales due to higher-than-average purchase prices. However, this effect may be small because EVs tend to fall into the premium market segments where capital-constrained customers are fewer.
- The recent fall in oil prices following the worldwide introduction of mobility restrictions (aggravated by a supply shock) lowers the total costs of driving of vehicles using petroleum fuels and makes electric vehicles less attractive.
- Car manufacturers may decide to delay or reduce investments that they had lined up to diversify the offer of EV models and meet the preferences of a broader range of consumers.

Why the longer-term outlook for EVs remains positive

On the other hand, a number of factors that suggest the longer-term outlook for the EV market can remain positive over the next decade and beyond:

- Opportunities for self-reinforcing cost reductions in EV production will persist. These result from increasing scale of battery production as well as battery technology improvements and will make it easier for BEVs and PHEVs to compete with vehicles using internal combustion engines in terms of total cost of ownership.
- Governments around the world are expressing their strong determination to insure citizens and businesses against the negative economic impacts of Covid-19, and to provide an economic stimulus to reverse the forced slowdown.
- The interest in, and need for, policy action on priority objectives such as mitigating climate change, improving local air quality, improve economic productivity and foster industrial development will continue. These priorities require support for innovation, including industrial progress in the EV and battery value chains.
- Oil prices will progressively increase from their current levels as the global economy recovers from the Covid-19 shock, even if they could remain lower than before the pandemic.

Implications for policy

Electric mobility requires rapid government interventions to provide insurance against Covid-19 risks to a variety of stakeholders. These range from large established corporations such as car manufacturers, public utilities and energy companies to small but often fast-growing companies without stable and substantial cash flows.

In the near term, sticking to policy requirements on clean mobility would help to reduce risks for investments into e-mobility that have already been made. Derogations would offer advantages for stakeholders that have not yet taken action. Should derogations be allowed, they should include guarantees that the requirements will be met in due course.

Economic stimulus packages geared towards decarbonising transport would benefit e-mobility and could help strengthen the pace of economic recovery over time. This is because e-mobility, like other energy efficiency improvements, can improve economic productivity by reducing the cost of travel and, in addition, be a driver of innovation. It is central for stimulating progress in battery technology, which has wider implications for the clean energy transition and, more broadly, the growth-enhancing impacts of self-reinforcing innovations.

Increased public debt as a result of stimulus programmes will likely mean that in the mid- to long-term polices will need to help recover government revenues, and not just fulfil policy goals like economic development and clean mobility. This may increase interest in taxing carbon-intensive fuels, implementing bonus/malus schemes that tax vehicles based on their environmental performance, as well as introducing distance-based charges for road use that are well-suited to manage a decline of fuel tax revenues resulting from the decarbonisation of transport.

Notes

- ¹ <u>IEA, 2019; Businesswire, 2020; EV-Volumes, 2020. More detailed analysis will be available in the forthcoming *Global EV* <u>Outlook 2020</u> of the International Energy Agency.</u>
- ² CAAM, 2020b; CAAM, 2020c.
- ³ UNRAE, 2020; CCFA, 2020a; CCFA, 2020b; ANFAC, 2020; VDA, 2020; SMMT, 2020; MarkLines, 2020a.
- ⁴ MarkLines, 2020b; MarkLines, 2020c.
- ⁵ <u>SMMT, 2020; UNRAE, 2020; CCFA, 2020b; Automobile Magazine, 2020; ANFAC, 2020.</u>
- ⁶ MarkLines, 2020a.
- ⁷ <u>SMMT, 2020; UNRAE, 2020; ANFAC, 2020.</u>
- ⁸ <u>CAAM, 2020b</u>, <u>CAAM, 2020c</u>.
- ⁹ <u>ACEA, 2020; AVERE, 2020.</u>

Global container shipping and the Coronavirus crisis

Covid-19 Transport Brief, 29 April 2020

As a result of Covid-19, container trade volumes and container port volumes have declined over the first months of 2020. Container freight rates have remained fairly stable because carriers have idled capacity, yet the high debt level of container carriers creates insolvency risks. Any bailouts for the sector should address offloading of risks to the public.

Global container trade volumes declined by 8.6% in February 2020 compared to the same month of 2019. Official figures for March 2020 have not been released, but in view of widespread lockdowns the reduction will likely be larger. The decline in container trade was particularly marked in the Far East. In Europe, North America and Oceania it is also significant, while it is not yet noticeable in other emerging economies (Latin America, Sub-Saharan Africa and the Indian Subcontinent and the Middle East). The table below lists the changes in January and February 2020 for different world regions. The recent development of container trade volumes is depicted in Figure 1 at the end of this Brief.

Carriers' main response to falling demand has been to reduce supply. Operators have massively started to idle vessels by cancelling services. These blank sailings have increased significantly compared to previous years, with 188 in February/March 2020, of which 85 were on the Asia-North America West Coast trade lane and 49 on the Asia-North Europe trade lane (Fig. 2, 3).

	Change Jan 2019 to Jan 2020 (%)	Change Feb 2019 to Feb 2020 (%)
Far East	0.0	- 17.5
Europe	0.7	- 4.0
North America	- 0.3	- 7.0
Australasia and Oceania	- 6.5	- 2.8
Indian Subcontinent and M. East	3.7	6.1
South and Central America	2.4	2.8
Sub-Saharan Africa	5.4	7.4

Table 1. Changes in container trade volume by world region, 2020

Source: International Transport Forum, CTS

More cancellations have been announced. They concern up to 30% of the Far East-Europe service capacity and up to 20% of the Trans-Pacific service capacity in coming weeks.¹ The share of idle container ship capacity reached 2.5 million Twenty-foot Equivalent Units (TEU) or 10.6% of capacity in early March 2020 (Figure 4).

These capacity reductions by the major carriers have managed to avoid price reductions for container shipping services: despite the deteriorating economic conditions, ocean freight rates have remained remarkably stable recently, both at a global level (Figure 5) and along the trade routes for the moment most affected by the economic standstill: Asia-North Europe, Asia-Mediterranean and Asia-North America West Coast (Figure 6).

Looking for cost reductions

Carriers will continue to look for ways to reduce costs. In 2015, carriers re-routed traffic after the opening of the new Suez Canal, forcing the Canal Authority to cut rates by 65%. Now, some are again re-routing Asia-Europe services via the Cape of Good Hope to avoid Suez Canal charges, a course of action made viable by very low oil prices.

The current oversupply of vessels could become even more problematic. Container ship supply is set to increase by 5% in 2020 and 3% in 2021, based on the current ship order book (Figure 7). Demand for container freight, however, could fall by 10% to 30%, depending on the assumptions.

If global container trade volumes were to contract by 11% in 2020 (in line with International Monetary Fund (IMF) projections of an 11% contraction of global trade), even an all-time high container ship idling rate of 15% would not be able to bridge the gap with the reduction of demand (Figure 8).

Some shipyards are already slashing prices to preserve their order book. Similar price reductions during the post-2008 crisis contributed to a race to build mega-ships. Government support for the maritime sector seems also intended to keep local shipbuilding industries in business.

Over the past decade, carriers mitigated excess capacity by lowering ship speeds, scrapping older vessels and cancelling orders for new ships (Figure 7). Carriers will likely resort to a mix of similar instruments in the second and third quarter of 2020.

Reduced demand has so far not translated into lower prices for customers of container shipping services, since the system of alliances and consortia in container shipping can control prices to a certain degree.² Avoiding a collapse of freight rates helps container shipping to survive, yet it also deprives its customers of cost reductions that would normally occur in times of declining demand. In addition, blank sailings reduce the service offer for shippers, while slow steaming can increase their inventory costs, considering that goods take longer to arrive.

Impacts on ports

Lower demand for container shipping has translated into less activity in container ports. Volumes handled in the main global container ports fell by 6% in both February and March 2020 on the previous year (Figure 9). In Chinese ports, containerised cargo declined by 5% in volume terms in January 2020, followed by a dramatic fall of 17% in February 2020 and a further slight decrease of 2% in March 2020 (Figure 10).

Sharp reductions occurred in ports on the West Coast of North America. Here, year-onyear volumes dropped by 13% in February 2020 and by a further 18% in March 2020. These are very significant declines, although not yet in the order of the cargo volume decreases triggered by the 2008 crisis (Figure 11).

Container carriers are the main customers of container ports and terminals. Service cancellations will cascade through the containerised transport system and reduce the number of feeder services. Carriers will transfer some of the large ships no longer needed on usual trade routes to other routes in order to optimise utilisation. This will intensify peaks and troughs in ports not used to handling these large vessels.

More blank sailings will deprive some ports of a significant share of the container cargo. For some ports this could be up to 30% less. Blank sailings will thus likely result in rationalisation of terminal networks and increase the bargaining power of carriers vis-à-vis terminals. Likely, this will play out via increased arrears for terminal handling charges, as happened during the last economic crisis. It is already occurring in some places: in Hamburg (Germany) terminal charges are usually paid after 60 days, but liners have now reportedly asked for 90 days.

The charter market

Non-operating vessel owners also feel the consequences of carriers' mitigation strategies. Container lines charter a considerable part of their fleet from these tonnage providers. The drop in container transport demand has led carriers to return charter tonnage and prioritise using their own vessels or those of carriers that operate in the same alliances and consortia.

Various container-shipping companies are replacing chartered vessels with much bigger ships that are underutilised in other trades. It also seems cheaper for liner companies to return a chartered vessel than idling their own bigger ships even if the size of their own vessels is too big for the trade. Arguably, this tendency has been made possible by policies that facilitate alliances and vessel sharing agreements.

Container shipping's debt burden

The freeze of economic activity caused by the Coronavirus pandemic inevitably means lower demand for traded goods and this will affect carriers' earnings. The high debt levels of container carriers makes them ill-prepared for the impending shock. Cumulated debt of fourteen major container carriers reached USD 95 billion by 2019 (Q3), this was USD 76 billion in 2010. Credit financed larger ships and mergers and acquisitions both within container shipping and within the containerised transport chain.³ As a result, since 2016 fourteen major carriers scored on average 1.3 on the Altman-Z index, suggesting they are "very likely" to become insolvent within two years.⁴ This score worsened in 2019 (Q3) when the score declined to 1.16.⁵

This makes it likely that the coming months will see carriers seeking more government aid. And governments wary to disrupt supply chains during the current pandemic might, a priori, be willing to bail out container carriers. Yet this scenario raises a number of concerns.

Moral hazard

A first concern relates to moral hazard: the likelihood that a bailout will increase risk-taking of firms to levels that would be considered unsustainable if there would be no bailouts. The danger of such behaviour is certainly present in container shipping: various carriers have negative working capital and major container carriers have been able to rely on government support in recent history, with the notable exception of Korean shipping line Hanjin in 2016.

Government policies have encouraged this risk-taking. Favourable fiscal arrangements, such as accelerated depreciation regimes for investments have stimulated over-investment in ship capacity, often with borrowed money. In most sectors, corporate income taxes smooth out cyclical investment by reducing the room for investments during booms and enlarging it during busts. The shipping sector is generally exempt from corporate income taxes, however.

Instead, shipping companies pay a fixed "tonnage tax" on the tonnage they operated by – which does not smooth out cyclical investment behaviour. Tonnage tax arrangements can hurt companies in times of very low demand, whereas they provide them with ample financial space in good times. These fiscal arrangements tend to increase risky corporate investments. Government bailouts for container shipping companies also risk being unfair vis-à-vis shipping companies that have low debt levels.

Externalised risks

Secondly, the externalisation of risks is in fact a wider problem in container shipping. Liner companies have shifted not only the bankruptcy risk to the public sector, but also climate change risks, health risks from air pollution and financing risks of public infrastructure.

The re-routing of vessels via the Cape of Good Hope to avoid the Suez Canal provides a good example: The longer distance means burning more ship fuel and thus increasing both greenhouse gas emissions and local air pollution in coastal regions, while avoiding canal charges reduces the operator's revenues and thus cost coverage of the public investment in the Canal.

Such externalisation of risks have been facilitated by tax exemptions of ship fuel, lack of inclusion of shipping in carbon pricing initiatives and generous exemptions of infrastructure charges by infrastructure managers – like canal and port authorities – in order to be more attractive than the competitor. The shipping firm can reduce its costs, but in the process increases the costs for society.⁶

Race to the bottom?

The third concern is a "race to the bottom", where governments' desire to protect their container fleets causes a vicious cycle of regulatory competition for the most generous subsidies and tax exemptions. By this logic, temporary support to weather a crisis become permanent; one country's support measures invite others to match or outdo them; and some countries will expand their support measures to increase their shipping sector's competitiveness.

The shipping subsidies introduced during the Great Depression in the 1930s generally continued, even if the form and character of the aid changed over time. More recently, the aftermath of the 2008 financial crisis saw an accumulation of government support packages that generally remained in place, followed by an expansion of scope of the schemes.⁷

As a result, the shipping sector can in fact be considered as a sort of hybrid sector: it is supported in multiple ways by the public sector, but without aligning with public policy priorities such as creation of employment, generation of fiscal revenues and improvement of environmental performance because few conditions are attached to government support. In some cases, this leads to paradoxical situations where shipping companies ask for government support despite registering their ships in other countries to avoid taxation or labour regulations. In addition, the tax-exempt status of container shipping companies provides them with an unfair advantage when they want to compete in other markets, for example in terminal handling, logistics or digital freight transport platforms.

Governments should use the economic leverage of the Covid-19 crisis to address these concerns. Actions could include closing tax loopholes, reducing exemptions and introducing carbon pricing for shipping. Governments could also halt the unfair competition of tax-exempt carriers with non-tax-exempt companies with regards to logistics activities. They could stimulate a more crisis-resilient container shipping model that includes clear conditions regarding the value the sector creates for society, embraces environmental sustainability and internalises external costs and risks in the price of containerised ocean transport.

Container shipping in charts



Figure 1: Global container trade volumes, January 2013-February 2020

In million Twenty-foot Equivalent Units (TEU). Source: International Transport Forum, CTS



Figure 2: Monthly blank sailings Asia-North America trade lanes, January 2012-March 2020

NAWC: North America West Coast; NAEC = North America East Coast. Source: International Transport Forum, Sea Intelligence





Source: International Transport Forum, Sea Intelligence



Figure 4: Idled ship capacity in TEUs, Week 1/2009-Week 15/2020

Source: International Transport Forum, Alphaliner





Source: International Transport Forum, Drewry, Shanghai Shipping Exchange





North Europe and Mediterranean are measured in USD/TEU; the US West Coast route is measured in USD/FEU (forty feet equivalent unit). Source: International Transport Forum, Shanghai Shipping Exchange



Figure 7: New container ship deliveries, orders and cancellations

In million TEU capacity. Source: International Transport Forum, IHS



Figure 8: Container ship capacity and container trade demand, 2013-21

Index = 100 in January for total global container fleet (supply) and global container trade volumes (demand). Index for fleet in operation shows fleet that is active, so total fleet minus idled ship capacity. The fleet indices are based on actual data until March 2020; the container trade volume index is based on actual data until February. The index for total fleet after March 2020 is a fleet-supply estimate based on projections of deliveries of new-builds based on the current order book. The index for fleet in operation after March 2020 is an estimation based on an assumed ship idling rate of 15% until the end of 2020. The index for container trade demand after February 2020 is an estimation based on an assumption of container trade demand contraction of 11% in line with the latest IMF projection of global trade decline of 11% for 2020. Source: International Transport Forum and the maritime data providers IHS, Alphaliner, CTS.



Figure 9: Changes in container volumes handled by major ports, January 2012-March 2020

Container ports included are: Shanghai, Ningbo, Hong Kong, Shenzhen, Guangzhou, Qingdao, Tianjin, Dalian, Busan, Singapore, Los Angeles, Long Beach, Vancouver, New York/New Jersey, Houston, Virginia, Savannah, Piraeus, Algeciras, Valencia, Barcelona, Genoa, La Spezia, Port Said East, Rotterdam, Antwerp, Hamburg, Gothenburg, Jawaharlal Nehru Port, Colombo, Melbourne, Sydney. Monthly volumes include March 2020 for most of these ports, with the exception of New York/New Jersey, Algeciras, Hamburg and Melbourne (until February 2020). Source: International Transport Forum, port authorities and terminal operators.



Figure 10: Changes in container volumes handled by Chinese ports, January 2011-March 2020

Ports included are: Shanghai, Ningbo, Hong Kong, Shenzhen, Guangzhou, Qingdao, Tianjin, Dalian, Xiamen, Zhanjiang, Zhangzhou, Shantou, Yingkou, Jinzhou, Qinhuangdao, Lianyungang, Zhangjiagang, Yangzhou, Nanjing, Taicang, Nantong, Quan Zhou, Jinjiang, Kao Ming, Beibu, Guangxi Qinzhou. Source: International Transport Forum, port authorities and terminal operators.



Figure 11: Changes in container volumes handled by ports on the North America West Coast, January 2001-March 2020

Ports included: Los Angeles, Long Beach, Oakland, Seattle/Tacoma, Vancouver. Source: International Transport Forum, port authorities.

Notes

- ¹ Sea Intelligence
- ² ITF (2018): The Impact of Alliances; ITF (2019): Container Shipping in Europe
- ³ Ibid.
- 4 <u>Alphaliner</u>
- ⁵ Alix Partners: 2020 Container Shipping Outlook
- ⁶ ITF (2015): The Impact of Mega-Ships
- 7 ITF (2019): Maritime Subsidies

Re-spacing our cities for resilience

Covid-19 Transport Brief, 3 May 2020

React, reboot and rethink – cities must meet this triple challenge to continue as catalysts for creative social and economic activity despite new health imperatives. Mobility in cities emerging from confinement will be different from what it was before the lockdown. At the crux of their challenge is the way in which limited space will be (re-) allocated.

Public authorities have reacted to the Covid-19 crisis by calling on citizens to reduce their movements to the strict minimum to lessen transmission risks. More than <u>half the world</u> population is under home confinement directives or advice. Public transport use, road traffic and everyday mobility have collapsed to record low levels as a result – <u>even in places</u> with no stay-at-home orders (Figure 1).



Figure 1: Sudden Collapse – Apple device trip routing requests in countries around the world

Routing requests are a proxy for travel demand and do not include most habitual trips. They give an indication of the scale of travel demand contraction where Apple devices are present and Apple routing services are used. Source: ITF based on Apple Mobility Trends

React to quickly-changing conditions

Rapid responses, sometimes improvised, have been deployed in the face of the global pandemic to ensure essential trips and to respond to changes in travel demand. Many workers, especially those in the health sector, emergency services, food retail and distribution and others providing essential services must still travel. And people need to purchase food and attend to necessary family and medical visits. Even where confinement measures are less stringent or voluntary, people must travel without increasing their risk of exposure to the virus.

National health authorities and the World Health Organization have set out detailed recommendations to limit contagion, among them the need to ensure minimum separation distances between people. Advice on physical distancing varies and ranges from 1 to 2 metres, depending on local and national contexts. This guidance will significantly impact urban mobility both during the acute phase of the crisis and during the reboot of cities.

Most cities cannot function without core public transport. Yet these services have been hit hardest by efforts to limit contagion. The real and perceived risks of exposure to the virus have transformed the greatest plus of mass transport – the ability to move large numbers of people rapidly, efficiently and affordably – into a liability. In some cities public transport services have been suspended completely during the acute phase of the contagion, notably in China and India.

Elsewhere, public transport operators have sought to minimise risks through back-door boarding, cashless operation, frequent sanitising of rolling stock and stations, limits on occupancy and advice on physical distancing. The two latter measures are particularly difficult to implement. A steep drop in maximum achievable load factors for buses, metros and trains has been the result. Reduced frequencies in response to lower demand, have increased <u>queues</u> and wait times for riders.

Physical distancing has spaced the public out of public transport during the crisis (Figure 2) and this will pose a challenge to cities as they seek to return to normality. There will be pressure to find alternatives to physical spacing requirements for public transport that allow safe use of buses, metros and trains.

Travelling by car limits contagion risks and the steep drop in road traffic during lockdown has made driving a compelling choice for those still on the road. Crash-related deaths and serious injuries have gone down as fewer kilometres overall are travelled. France reported a <u>40%</u> reduction of road traffic deaths and a 44% reduction of serious injury crashes year-on-year for the month of March (the country went into a nationwide lockdown on 17 March). California has seen a <u>50% drop</u> (PDF link) in serious injury and fatal crashes since the state issued a "shelter in place" order.

However, the drop has been less strong than the drop in traffic. Traffic speed, and speeding, has increased as streets have emptied. The <u>rise in traffic speeds</u> increases risks for other road users, including those walking and cycling.

Many people have opted to walk and cycle during the pandemic - partly to avoid public transport, but partly also because walking and cycling are well-suited for travel during the pandemic. Both walking and cycling limit the risk of close contact and allow adjusting trajectories to avoid close passing. As many people seek to minimise travel distances, walking in the neighbourhood has replaced cross-city travel while cycling is an effective alternative for longer trips previously taken by public transport.



Figure 2: Spaced out – impact of physical spacing on public transport capacity

Approaches towards cycling have not been uniform, however. In some countries, cycling has been restricted to the minimum necessary to carry out essential trips. In others, leisure cycling has been encouraged in recognition of its health benefits, including for mental health, when compatible with Covid-19 health recommendations. The World Health Organization has encouraged people to walk, bicycle or use other forms of micromobility for exercise and for essential travel, as have many local and many national authorities (e.g. in Belgium, Denmark, Germany and New Zealand).

Shared micromobility has helped ensure everyday mobility during the crisis where it has continued to operate. In Wuhan, shared bicycles accounted for more than half of all trips or 2.3 million rides in the city from 23 January to 13 March. Cities have recorded <u>increased use</u> of shared micromobility as people abandoned public transport before strict confinement. Many share systems have been made free for use by health sector professionals and other essential workers. Operators have sought to minimise virus transmission risks by frequently sanitising touch points on e-scooters and bicycles.

At the same time, Covid-19 has also revealed limitations to shared micromobility's business models and the regulatory approaches towards them. The economic pressure on operators caused by the precipitous drop in demand in some markets has sometimes been amplified by poorly designed or unfair regulations and charges levied on electric scooter and bike operators. In response, most operators have scaled down activity or <u>pulled their fleet</u> out of cities in order to limit expenditures.

Unsurprisingly, cities are not adapted to current physical spacing guidelines imposed by Covid-19 - they derive their advantages from density and proximity. But authorities must confront this challenge as they seek to ensure safe urban mobility during the different phases of the pandemic. Current sidewalk widths in many cities, for instance, simply cannot accommodate more pedestrians in safe ways if physical distancing is required. Paris and New York, two very densely populated cities, currently recommend a distance of two metres (Figure 3, online examples from <u>Madrid</u>, <u>New York City</u> and <u>Toronto</u>). These constraints are exacerbated where access restrictions to shops require queuing.





Inadequate (less than 1.5m spacing) Tolerable (between 1m-2m spacing) Acceptable (more than 2m spacing)

Source: ITF based on OpenStreetMap, WHO, CEREMA, APUR, City of New York, Meli Harvey, Ville de Paris, OpenStreetMap

Many cities have rapidly repurposed streets to provide safe room for pedestrians, cyclists and other forms of light, active mobility. These "emergency cycle lanes", also "Corona lanes", act as safety valves which make essential travel possible and safe for those displaced from public transport.

Unlike more permanent infrastructure, emergency lanes are rapidly deployed, sometimes overnight, without heavy bureaucratic processes. The inspiration for such light individual transport (LIT) infrastructure comes from "tactical urbanism" interventions like those that spurred the rapid implementation of <u>Seville's</u> extensive cycling network and the recent development of <u>New York</u> <u>City's</u> cycling infrastructure.

Such interventions mobilise existing resources such as traffic cones, plastic bollards, construction separators and temporary lane markings. Typically, they are deployed under the same rules applying to construction-related traffic diversion. They take advantage of reduced car traffic by reclaiming street space from car parking and travel lanes. Often, pedestrians are given space to walk on the carriageway and in some instances car travel lanes are narrowed (Figure 4).

For these reasons, authorities often reduce maximum traffic speeds to 30km/h or less, as this is the safe limit for mixed-use roads. Generally, these measures build on <u>established practice</u> to ensure safety for light cycling and walking infrastructure. Other types of emergency measures have focused on developing "safe streets" or "slow streets" by giving pedestrians, scooterists and cyclists priority, banning through traffic and lowering speed limits.

In places where cycling is popular and facilities are already present, physical spacing imperatives may require the allocation of even more space to cyclists and micromobility, especially at junctions where bunching occurs. Some cities, like Brussels, are re-timing traffic lights to give more time for pedestrians and cyclists and avoid crowding at junctions. <u>Turning off traffic lights</u> and enforcing traffic priority rules for shared space to avoid crowding is another option.



Figure 4: Quick-LIT – rapid deployment of light individual transport lanes

Source: ITF based on WHO, CEREMA, Berlin Senatsverwaltung für Umwelt, Verkehr und Klimaschutz

First implemented in mid-March 2020 in cities like Berlin, Bogota, Mexico City and New York, emergency LIT infrastructure has spread rapidly. More than 150 cities have deployed emergency cycling and walking infrastructure as of late April 2020, with many hundreds more planning to do so as confinement is eased.

In some cases, the introduction of LIT infrastructure has alleviated pressure along vital corridors or improved access to specific destinations like hospitals – as in Berlin, Budapest, Dublin, Grenoble, Montpellier and Tirana. Valencia focuses not only on transport corridors but equally on large junctions and squares. To give traffic space to pedestrians, Spain's third-largest city has created a set of temporary <u>superblocks</u>.

Other cities aim to create city- or region-wide networks of emergency cycling and pedestrian infrastructure that facilitate socially-spaced walking and cycling against the backdrop of decreased public transport use. Among these are Auckland, Barcelona, Bogota, the Île-de-France region, Lima, New York City, Quito and Rome (Figure 5).

Still other cities like Montreal, Oakland, Portland, San Diego, San Francisco and Vienna are creating "slow street"/"safe street" networks that prioritise pedestrians and cyclists and limit car access. Finally, some cities aim to deploy all of these and still other measures to radically restructure urban space for a more resilient future.

Milan, with its "<u>Strade Aperte</u>" (Open Streets – PDF link) plan combines the emergency deployment of cycling infrastructure and sidewalk widening, a rapid expansion of 30km/h traffic calmed zones, the pedestrianisation of several plazas alongside, 20km/h shared street zones, parklets and other measures seeking to provide space for physically distanced city living. These measures are linked to longer-term objectives to manage car traffic and provide sustainable travel options for inhabitants.

Brussels is fast-tracking the implementation of its "<u>Good Move</u>" mobility plan that combines new walking and cycling infrastructure with neighbourhood traffic-calmed zones. As in other cities, the plan is now being rolled-out overnight with temporary fixtures.

London's "<u>StreetSpace</u>" plan and Paris' Covid-19 <u>response plan</u> envisage similar, broad and strategic resilience-enhancing actions. Outside of the mobility arena, some cities (like <u>Vilnius</u>) are planning to dedicate street space for outdoor seating to help restaurants and cafes operate within physical distancing constraints.

Some regional and national governments actively support the use of emergency LIT infrastructure. New Zealand has <u>announced</u> significant new funding to help local authorities create emergency walking and cycling infrastructure. The French transport minister <u>has tasked</u> a high-level panel to help guide the national roll-out of such infrastructure. <u>This plan</u> includes EUR 20 million of emergency funding to help facilitate cycling during the post-confinement phase. Also included are funding for emergency cycle infrastructure and parking, administratively streamlining the creation of emergency cycling infrastructure, EUR 50 maintenance vouchers for used bicycle repair, training for new or hesitant cyclists and co-financing of employer-provided cycling incentives. The United Kingdom has <u>relaxed administrative rules</u> so local councils can put into place emergency walking and cycling lanes.

Technical guidance has also quickly been issued by national governments and regional authorities. For instance, the French Centre for Studies and Expertise on Risks, Mobility, Land Planning and the Environment (CEREMA) has developed guidelines for <u>walking</u> and <u>cycling</u>, while in Germany the government of the *Land* of Berlin has published a <u>framework</u> for <u>emergency cycling</u> infrastructure (PDF link) as has the municipality of <u>Quito</u>. Advocacy organisations and others have also put out guidance (e.g. <u>Bikeitalia</u> (PDF link), <u>Mobycon</u>).



Demand-responsive emergency cycle routes

Pre-lockdown, the city deployed 112 kms of

emergency cycling lanes (in addition to the 550

km already in place) to handle displaced public

transport trips. Post-lockdown, the city iterated

deployed 80 kms of emergency lanes (28 April).

the network 3 times and currently has

deployed overnight

Figure 5: The new space race – large-scale street space re-allocation initiatives in response to Covid-19

with the second second

City-center re-prioritisation for walking, cycling and scootering and additional lanes

Brussels centre will become an emergency shared space zone with priority given to pedestrians and cyclists and 20km/h speed limits. Pedestrians will be able to walk on the carriage-way in order to facilitate physical distancing. An additional 40km of cycle tracks will be deployed in the region.



650 km regional bicycle network fast-tracked to help compensate for public transport loss

The region will help build a network of cycle routes and provide EUR 300 million funding (~60% of the total cost). Construction will be fast-tracked starting May 11th, 2020 and will include the rapid deployment of emergency cycling infrastructure. The city of Paris will deploy another 150km of pop-up cycle lanes.



Post-Covid19 mobility plan starting w/ emergency lanes, speed zones and plazas

In order to adapt to post Covid-19 travel behaviour and meet sustainability goals, Milan's « Strade Aperte » mobility plan calls for new cycle track infrastructure, new slow speed zones, and pedestrianised plazas, starting, deployed first as emergency infrastructure.



Planned 301 km cycle network to be deployed as emergency lanes first

The first phase of the network planned to be deployed in 5 years will be deployed in 3 months. It will first be implemented as emergency cycling lanes and will be extended and converted to hard facilities in later phases.



75 miles of Slow Streets to allow social spacing for walking, cyclists and scooters:

The city of Oakland has converted its neighbourhood cycling network (10% of all streets) into pop-up 'slow streets' closed to through car traffic. San Francisco has implemented a similar measure with a number of streets prioritised for walking and cycling.

Source: ITF based on Bruxelles Mobilité, City of Oakland, Collectif Vélo Île-de-France, ATU Lima, Movilidad Bogota, SFMTA, Comune di Milano, Mapbox, OpenStreetMap

Rebooting safely: Pathways out of the pandemic

The course of the pandemic, and thus de-confinement strategies and timelines, are fraught with uncertainty. Cities will have to reboot in ways that avoid a spike in new contaminations. Many of the safety measures currently in place will remain relevant for some time. The pathway out of the pandemic will not lead the world's urban agglomerations back to the old "normal". Instead, it will lead to a qualitatively new reality for the foreseeable future that is physically spaced, hyper-sanitised, hygienic-masked and crowd-averse.

What will this re-boot look like? It is entirely too soon to say but early indications provide some hints. Urban travel will not immediately bounce back to prior levels. Many of those who can telework will continue to do so until safe travel and safe workplaces are assured. Commuting

may resume for those not able or willing to telework, but discretionary trips may become fewer and more local.

<u>Surveys</u> (PDF link) from China indicate that post-confinement public transport use is down, and travel counts confirm ridership at <u>50% of 2019 levels</u> for the first quarter of 2020. Conversely, car travel has risen quickly to equal and surpass pre-Covid levels in <u>large cities</u> once travel restrictions were lifted.

As of mid-April 2020, road traffic levels in 70% of Chinese cities were at least <u>90% or more</u> of their 2019 levels. One exception is <u>Wuhan</u> where car travel is still below pre-Covid levels, year-on-year. <u>Car sales</u> are up, though this may be due to pent-up demand. Surveys suggest that private cars may <u>replace trips</u> (PDF link) previously taken by <u>public transport</u>, <u>taxis and</u> <u>ride-sourcing</u>. At the same time, bicycle travel has <u>risen even more rapidly</u> across many Chinese cities. Shared bicycle use has <u>almost tripled</u> in Beijing and doubled compared to pre-Covid levels in many other cities following the end of travel restrictions.

These developments are indicative only and tied to the Chinese context. Yet they point to the possibility that many people will feel uncomfortable travelling by public transport or sharing close quarters with drivers in taxis or ride-sourcing vehicles. These trips will have to be catered for with other travel options.

	Daily bus and metro trips (excl. regional rail, million)	Scenario: Minus 30% teleworking	50% of remaining trips
London	9.8	6.9	3.5
New York	7.6	5.3	2.7
Paris	5.5	3.8	1.9
Токуо	8.0	5.6	2.8

Table 1: Number of dai	ly public transport trip	s to be serviced p	oost Covid-19
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Source: ITF based on Transport for London, Municipality of Tokyo, City of Paris

Absorbing these trips will not be trivial, as this simple calculation demonstrates: Anywhere from 5 to nearly 10 million daily trips are taken by metro and bus (excluding regional rail) in London, New York, Paris and Tokyo. If 30% of those trips were to be replaced by telework, 4 to 7 million trips per day would still have to be handled by public transport. Two to 3 million trips a day remain if 50% of those remaining trips are no longer taken in public transport.

Figure 6: Out of space – square meters required to move one person



Source: ITF adapted from City of Amsterdam, KiM Netherlands.

In the short-term, that is an impossibly large number of trips for city streets to absorb if they are taken by car. In the longer term, cities that are designed to handle such an increase in traffic may not be able to deliver other outcomes related to safety, equity, access, environment and efficiency. Walking, cycling and other forms of light mobility are much more space-efficient (Figure 6) and could help absorb this demand. Many urban trips are made over a relatively short-distance and could easily be walked, cycled and scooted. Electric propulsion and regional infrastructure also make longer-distance cycling or scootering possible (Figure 7).



Figure 7: Make space for short trips – total urban trips in the US by distance

Source: ITF based on US NHTS 2017 data

Public authorities will have to adjust to a new environment in which travel options, preferences and behaviour will remain severely disrupted as long as the threat of Covid-19 persists. A major part of that adjustment will be the realisation that physically-spaced Corona lanes will be part of the near-term normal. In terms of road space allocation, public authorities should provide the following to ensure that urban travel can be safely accommodated during the climb-out from Covid-19 travel restrictions:

- Do not compromise safety when rapidly deploying emergency LITs. There is experience in how to make light infrastructure safe, but where necessary car and truck traffic speeds should be reduced.
- Link emergency infrastructure to long-term objectives. Cities should build now what they wish to keep for later.
- Monitor the use of infrastructure and iterate and expand emergency LIT infrastructure as needed during the reboot. Light infrastructure can be rapidly modified and redeployed. Public authorities should do so where usage numbers require it.
- Consider fast-tracking upgrades where levels of use are high. "Emergency" is not synonymous with "temporary". When critical thresholds are approached or where strategic requirements dictate, public authorities should upgrade emergency infrastructure.
- Link emergency LIT infrastructure to other resilience-enhancing measures. Emergency infrastructure that complements other needs such as access to jobs, healthcare, food and other essential services will provide better resilience.

Rethink space allocation to increase resilience

Cities are the product of a constant interplay of forces, some long and steady, others abrupt and violent like the Covid-19 crisis. The cities of the future will no doubt be formed by the Covid-19 pandemic just as indoor plumbing, sewage treatment, garden parks and broad, leafy avenues were partly the outcome of past pandemics. It is still too early to know what the exact imprint of Covid-19 will be but even now citizens, public authorities, civil society and the private sector can work to guide that outcome. If there is one principle that should underpin recovery efforts, it should be to make choices now that we wish to keep in the future.

The heart of the urban mobility system will continue to be public transport. But it will be an expanded and diversified form of public transport that continues to contribute to the effective functioning of dense cities and delivers social value to its inhabitants. It will be more demand-responsive and agile at its margins, but still be unparalleled in its ability to rapidly and efficiently transport millions of people every day across large urban areas.

Until the end of the "UV age" (for "Until Vaccine"), the ability to deliver on that promise will be compromised. Public authorities and operators will have to adapt their vision for the sector, its funding and support mechanisms to ensure mass transport's long-term viability as ridership drops and public budgets are pressured during the economic downturn engendered by confinement.

Car travel may increase and this will put pressure on improving the environment in, and livability of, cities; objectives that were at the heart of urban mobility policies around the world prior to Covid-19. These objectives remain relevant and valid, and so part of the renewal process will be to find ways to ensure they can be met in new circumstances.

Part of this process will be to increase the resilience of cities to shocks such as the current one. This will require rethinking and recalibrating the ways in which street space is allocated. More space will be given to citizens who choose to walk, cycle or scoot providing them with safe, connected, coherent and comfortable networks adapted to their specific needs.

This investment delivers <u>high returns</u> and enhances <u>urban resilience</u> to shocks. It is an effective way of making access more equitable and creates an efficient safety valve for urban travel demand. Streets are not <u>set in stone</u>, despite all appearances. The ultimate impact of the response to Covid-19 may be to re-shape our cities into better, more livable places.
How badly will the Coronavirus crisis hit global freight?

Covid-19 Transport Brief, 11 May 2020

Mobility restrictions to contain Covid-19 could reduce global freight transport by up to 36% by the end of 2020, according to a simulation by the International Transport Forum. Urban goods transport is more resilient as increased online shopping adds deliveries. CO₂ emissions associated with freight fall significantly.

Covid-19 has spread rapidly from China around the world to become a global health crisis. Severe restrictions have been put in place to contain the virus and avoid the collapse of health care systems in many countries. One result of the efforts to contain the pandemic has been a dramatic reduction in transport activity.

Estimating the impact of these restrictions is difficult as events continue to unfold. At the same time, scenarios based on credible assumptions are crucial to shaping effective policy in response to the Coronavirus challenge. For an initial assessment of potential impacts of Covid-19 on global freight transport, the International Transport Forum has integrated the restriction measures in place around the world into its in-house models of global transport activity used for the <u>ITF Transport Outlook 2019</u>. Based on this, updated projections for freight transport volumes in 2020 were calculated.

The findings

The current mobility and activity restrictions around the world are likely to result in a strong reduction of global freight transport volumes in 2020 of more than one third. Overall, freight transport, measured in tonne-kilometres, is projected to be 36% below the level foreseen without Covid-19 for this year. Non-urban freight activity, i.e. national and international goods transport outside of cities, could be 37% lower overall, compared with the estimate for global 2020 freight volumes without Covid-19.

Regional differences are significant. A reduction of more than half is projected for ASEAN countries, Russia/Central Asia and India. For China, the impact is just above a quarter less freight. Europe and the Americas are in the middle of the range with reductions of around 40%; only the Andean countries are projected to be hit harder, with a 50% fall in non-urban freight activity.

Freight transport within cities can expect to be hit significantly less hard than national and international goods transport. Updated projections see urban freight activity at 8% below the estimate that did not yet reflect any impact from Covid-19.

One reason for this is the growth of online shopping during the lockdown in many countries, which leads to more deliveries of e-commerce purchases. Associated with this phenomenon is an increased number of vehicles delivering goods in cities, despite the still significant fall in volume.

The projected impact of Covid-19 on freight activity in 2020 would lead to a reduction of associated CO_2 emissions of 28%. Carbon dioxide emissions from national and international freight would be close to one third (30%) lower than projected without the impact of Covid-19. For urban freight, the drop is half as big (14.5%), yet still significant.

Regions	Urban freight activity	Inter-urban freight activity	CO ₂ emissions urban freight	CO₂ emissions inter-urban freight
ASEAN countries	-16	-53	-22	-42
China	-3	-27	-10	-23
India	-14	-51	-20	-46
Japan and Korea	-10	-33	-17	-26
Russia and Central Asia	-6	-53	-13	-54
Other Asia	-5	-32	-12	-25
Oceania	-3	-42	-10	-41
Middle East	-6	-36	-13	-31
North Africa	-15	-36	-21	-25
Southern Africa	-12	-32	-19	-41
Other Africa	-10	-50	-16	-38
South America (Andean)	-14	-50	-20	-37
South America (South Cone)	-5	-35	-12	-31
Caribbean	-15	-43	-21	-39
Central America	-12	-39	-19	-35
North America	-10	-37	-17	-35
Scandinavia	-15	-41	-21	-37
Western Europe	-12	-43	-19	-37
Eastern Europe	-14	-40	-20	-36
Global	-8	-37	-14	-30

Projected Covid-19 impact on freight and associated CO2 emissions for 2020

(by region and freight type, percentage change on projections pre-Covid-19)

Legend: Urban freight activity = red $\Delta \ge 15\%$, orange $\Delta \ge 10\%$; inter-urban freight activity: red $\Delta \ge 50\%$, orange $\Delta \ge 40\%$; CO₂ emissions from urban freight activity: red $\Delta \ge 20\%$, orange $\Delta \ge 13\%$; CO₂ emissions from inter-urban freight activity: red $\Delta \ge 40\%$, orange $\Delta \ge 33\%$

The strongest emissions reductions would occur in the Russian Federation and Central Asia, with 54%. In all other regions, CO_2 reductions do not reach 50%, although they are still big: only China registers a less-than 25% reduction of CO_2 emissions from non-urban freight. For urban deliveries, the drop in CO_2 ranges from 10% to just above 20%, with the majority of regions in the upper range.

The assumptions

Three main elements shape the assumptions underlying these projections: 1) an estimated impact of restrictions on activity and mobility, 2) the degree of activity and mobility restrictions introduced by region or country, and 3) the duration of restrictions. For non-urban freight, commodities are grouped into five categories: energy-related extraction and processing, mineral extraction, livestock, food and manufacturing and textiles. Urban freight is differentiated into parcel and non-parcel transport.

The assumed impact of the restrictions uses three different levels: a national lockdown, a regional lockdown and mobility restrictions. In a national lockdown, non-urban freight is estimated to decline by up to 90% for transport of livestock; 40% for mineral extraction; 30% for energy-related extraction and processing; and 25% for manufactured goods. For urban freight, a national lockdown could result in an increase of 20 to 40% for parcel transport, measured in tonne-kilometres. Non-parcel urban freight, on the other hand, could decline by up to 50%. The balance for each region depends on the relative weight of parcel and non-parcel transport.

Estimates for the impact of a regional lockdown are similar to those of a national lockdown, although with comparatively smaller reductions. For this analysis, a reduction of freight activity by two thirds (66%) compared to a nation-wide lockdown was assumed. For the third level - mobility restrictions - the effects vary considerably. Estimating the impact is therefore fraught with uncertainties. In this analysis, mobility restrictions reduce non-urban freight activity by up to 25% while urban freight is assumed to suffer no significant impact.

Geographically, the level of restrictions was differentiated based on available information about measures in countries at the time of writing. The duration of restrictions was assumed to be three months. An additional adjustment period of six months was added before mobility returns to pre-Covid-19 levels during which non-urban freight is assumed to be between 2% and 10% below pre-Covid-19 levels, depending on the commodity, and urban freight is no longer significantly reduced.

The estimated impacts depend on the duration of activity and mobility restrictions, but also the commodity composition of the freight traffic in the country. As discussed above, the regions with a greater presence of livestock, mineral extraction and energy-related extraction and processing may observe a greater reduction in freight volumes, followed by manufacturing-intensive markets. The 2020 values for trade activity and geographical composition used in the simulation are estimates and depend on forecasted population and economic activity, among others.

Restoring air connectivity under policies to mitigate climate change

Covid-19 Transport Brief, 20 May 2020

Aviation is one of the sectors hardest hit by the Covid-19 crisis, with many countries closing their borders and suspending international air travel. Domestic air travel is also curtailed by social distancing, confinement measures, and shrinking economic activity. The 80% global drop in flights has caused severe financial disruption to the aviation sector.

Restoring air connectivity will be important for economic recovery. Governments, airports, and airlines will need to co-operate closely to agree sanitary measures that allow flights to be reinstated as rapidly as possible, learning from measures adopted globally in response to previous pandemics. Intervention to support aviation during the crisis will need to be compatible with the long-term policy objectives of fostering efficient aviation markets and meeting agreed climate change mitigation targets.

The impact of Covid-19 crisis measures on aviation

The Coronavirus crisis will cause double the loss of economic output of the 2008 global financial crisis and will create the biggest shock in a century for many economies, according to <u>April 2020 estimates</u>. A 13% reduction in the UK's Gross Domestic Product (GDP) for the 2020 financial year <u>is expected</u>. The unprecedented nature of the lockdown measures taken by governments make scenarios for recovery particularly uncertain. The longer restrictions remain in place, the more likely it is that future economic output will be depressed because of business failures, cancelled investments, and long-term unemployment.

Aviation activity has fallen to very low levels, following the introduction of international travel bans in March 2020. This is reflected in <u>data from IATA</u>. Europe saw an <u>89% year-on-year drop</u> in scheduled flights in April. Most of the remaining activity is from Chinese, Japanese, and US domestic markets. Scheduled flights in April were <u>down by around 43%</u> compared to the previous year in China and Japan, and by around 56% in the US.



Figure 1: Worldwide flights down 80%

Source: IATA Economics analysis based on data provided under license by FlightRadar 24. All rights reserved.

<u>Air cargo volumes have declined with economic activity</u>, but freight-only flights have grown, with some passenger aircraft converted to carry freight to cover for cargo that is usually carried in the bellies of passenger aircraft. Supply of medical materials and equipment is critically dependent on air freight during the crisis. The volume of pharmaceutical products carried has doubled.









Source: IATA Economics using data from IATA Statistics

Aviation's recovery from the Covid-19 crisis will be slower than from other recent coronavirus and influenza outbreaks. While the initial impact of Covid-19 global on revenue-passenger-kilometres (RPKs) was similar to that of SARS on the Chinese market in 2003, the relatively speedy V-shaped recovery from SARS was possible due to a rapid return of passenger confidence in flying. The speed of recovery from the Covid-19 crisis will largely depend on government decisions on international travel restrictions and the relaxation of domestic confinement measures.

Key insights

In common with much of the rest of the economy, government assistance can allow the aviation sector to preserve incomes and jobs through the crisis. Sector-specific measures taken include suspending requirements for 'use it or lose it' landing rights at slot-co-ordinated airports. Some state-owned airports have suspended landing charges for remaining traffic, as in Iceland and Norway. Others, like Australia, have focused on protecting services to remote communities.

Government support to airlines

IATA estimates that airlines had pre-crisis cash reserves allowing them to survive an average two months of crisis conditions. Unaided, many airlines could go out of business before travel restrictions are lifted. Some governments have already provided loans or taken temporary equity stakes in airlines and airports to moderate disruption, for example in France, the Netherlands, Scandinavia, and the US.

There is no single approach to supporting airlines during the crisis. Some governments have provided immediate support to airlines. For example, the US government earmarked USD 25 billion for a mix of grants, loans, and equity options for its airlines at the end of March. Australia and the UK have taken a different approach. Australia has turned down applications for support, partly because of the potential negative impact on competition. The UK Treasury will only consider support once all commercial finance options are exhausted.

French government support to Air France-KLM required an undertaking to bring forward the company's commitment to halve CO_2 emissions per passenger from 2030 to 2024 for domestic flights.

	USA	France	The Netherlands	Norway
Airlines eligible	All US passenger air	Air France	KLM	Norwegian Air Shuttle,
	carriers			SAS, Widerøe
Grants	USD 17.5 bn	0	0	0
Equity stakes	Optional	0	0	0
Loan guarantees	0	4	In negotiation	NOK 6 bn
Government loans	USD 32.5 bn	3	In negotiation	0
Total	USD 50 bn	EUR 7 bn	EUR 2-4 bn	NOK 6 bn

Table 1: Support to airlines in selected countries in addition to payroll support (as of 18 May)

Notes: The US Treasury will receive warrants to buy shares (single-digit stakes) from airlines accepting loans. Norway's guarantees are allocated to Norwegian Air Shuttle (NOK 3 billion), SAS (NOK 1.5 billion), and to Widerøe and other airlines (NOK 1.5 billion) totalling EUR 537 million. The Danish and Swedish government have also pledged up to EUR 137 million each in loans for SAS.

Governments must take a long-term view of their air connectivity needs and the commercial standing of airlines when determining what financial support to make available. Where governments had decided to discontinue support to an airline prior to the crisis, direct income support for the labour force is preferable and less costly than postponing inevitable exit from the market. Where carriers exit markets, governments should take measures to <u>facilitate</u> <u>competition</u> in the recovery, such as reserving relinquished slots for new entrants at slot-constrained airports.

Ownership and control restrictions limiting foreign investment in airlines could also be relaxed to make equity more available from the market. The crisis could be an opportunity to lift restrictions applied unevenly as a result of international alliances and joint ventures, and stimulate investment.

Protecting essential air connectivity can also support the aviation sector. Air connections are particularly important where there are no substitutes, which is the case for remote locations and island states. During the Covid-19 crisis, flight cancellations have had a particularly severe impact on <u>islands and peripheral regions</u>, many losing all international connections.

Many governments supported routes providing essential air connectivity before the crisis and some have introduced new support since the crisis, for example in Australia, where support is provided for services on specific routes rather than to carriers. The benefit of such an approach is its focus on connectivity outcomes. <u>Subsidies should be non-discriminatory towards carriers and include sunset clauses</u> to ensure that subsidies are periodically revised and revoked once the crisis is over.

Environmental protection

Environmental policy for the sector is subject to long-standing concerns over noise, air pollution, and a growing imperative to mitigate CO₂ emissions. These policy priorities are unaltered by the Covid-19 crisis. Continued international co-operation to reduce the climate impact of aviation under the auspices of ICAO continues to be a priority, with much remaining to be done to complete implementation mechanisms for the measures adopted. The crisis will temporarily reduce CO₂ emissions from aviation. It may also accelerate retirement of less fuel-efficient aircraft in a depressed market, but delaying or relaxing environmental protection measures would not be an appropriate part of Covid-19 crisis recovery policies.

ICAO has established a <u>Carbon Offsetting and Reduction Scheme for International Aviation</u> (CORSIA) that aims to achieve carbon-neutral growth in international aviation from 2020. Beyond anticipated fuel and operational efficiency improvements, CORSIA relies on sustainable aviation fuels (SAF) and a market-based mechanism (MBM) for offsetting carbon, mainly through forestry projects. Although emissions reporting under CORSIA has begun, much remains to achieve completion, notably the definition of non-emissions-related fuel sustainability criteria (e.g. water and biodiversity) and guaranteeing the environmental integrity of offsets. The MBM architecture can accommodate short-term disruptions, but action to reduce CO₂ emissions will be no less urgent in the Covid-19 crisis recovery.



Figure 3: ICAO framework for CO₂ emissions mitigation from international aviation

ICAO's MBM aims to mitigate CO_2 emissions cost effectively through airline-funded investments to reduce carbon emissions in other sectors. ICAO is currently working on ensuring that offsets are effective in reducing carbon emissions. Forestry projects raise the most complicated issues. Illegal logging and fires make it almost impossible to guarantee carbon sequestration over time and inadvertent incentives to fell and replant may be created with disastrous impacts on biodiversity. Strong local governance frameworks are needed for credible offsets.

ICAO's focus has also been on biofuels delivering certified net CO₂ mitigation without undue impacts on biodiversity, water quality or food production. Experience with biofuel mandates in the European Union underlines the challenge involved:

- Conventional biofuels that meet these criteria are mainly derived from food and agricultural waste, and are available in only limited quantities, insufficient to meet demand from aviation.
- The indirect land-use change impacts of producing biofuels from crops have proved impossible to quantify or contain.
- The direct land-use change resulting from the production of biofuel crops can release large amounts of carbon from soils.

These difficulties have led the European Union to <u>end its biofuel mandate</u> and <u>cap national</u> <u>mandates</u> for producing transport fuels from crops (EU 2018, T&E 2018b).

Production volumes of sustainable biofuels are limited by the quantities of agricultural, forest, and municipal waste that can be collected, and the availability of suitable, uncultivated land. Fuels can also be produced from algae, but cost-effective techniques for producing this feedstock at scale are currently not available.

Electrofuels could complement sustainable biofuels in the long run. These are synthetic hydrocarbons produced by electrolysis of water and renewable carbon, from either biomass or air capture of CO₂. Sustainable production in sufficient quantities requires very large amounts of low-carbon electricity. Battery-electric propulsion may also be effective for short flights with small passenger aircraft and a range of emerging electric assistance technologies could help reduce global aviation's overall carbon intensity.

Government support for aircraft manufacturing for post-Covid-19 recovery should prioritise technological innovations which mitigate CO₂ emissions to ensure that environmental challenges are addressed.

Carbon pricing would facilitate carbon-neutral growth, as it would strengthen the business case for investments in energy efficiency, operational improvements, and spending on sustainable aviation fuels. Fuel for international flights is <u>exempt from excise tax</u>, but carbon pricing benefits may trigger a revision. Carbon taxes are already levied on fuel used for domestic flights in some countries. Experience in California shows that, if paired with policies supporting technological development such as lo- carbon fuel standards, even moderate carbon pricing levels can effectively accelerate technological gains and improve the competitiveness of low-carbon fuels. An alternative carbon pricing instrument is emissions trading. Flights within Europe are subject to the EU Emissions Trading Scheme (ETS), but plans to include international aviation were withdrawn to facilitate progress on the development of the CORSIA agreement. <u>The effectiveness of the system in reducing CO_2 emissions is disputed</u>. Establishment of the ETS sent a signal of political intent. Emissions trading schemes are harder to administer than a carbon tax, however. They require periodic negotiation between governments to set emission caps, opening the door to exemptions and other distortions. In the ETS, these issues resulted in unstable and weak prices far below the estimated social cost of carbon. Applying emissions trading to international aviation also raises the same fiscal issues as carbon pricing.

Conclusion

Covid-19 contingency measures and post-crisis consumer spending patterns are likely to severely dampen demand for air travel for an extended period. The disruption will accelerate the retirement of older, less fuel-efficient aircraft, based on experience with previous economic shocks. Neither effect will alter climate change impacts significantly and durably, however. Achieving international aviation's carbon neutral growth target is a formidable task regardless of the impact of Covid-19. Aid to the sector must align with existing sectoral policies to increase social welfare outcomes, both in terms of environmental impacts and consumer benefits.

Drones in the era of Coronavirus

Covid-19 Transport Brief, 19 June 2020

Drones are proving to be versatile and effective tools in the Coronavirus epidemic. Yet with drone regulation still in its infancy, their potential is not fully exploited. Drone deployment in the Covid-19 crisis thus offers a learning opportunity for how airspace regulations could be updated to facilitate their use – also beyond emergency response.

The need to reduce human contact as a health precaution in the time of Covid-19 has provided a boost to the use of drones. Since the onset of the Coronavirus crisis, drones have been deployed to deliver medical supplies, collect or dispatch lab samples, deliver daily necessities to confined citizens, monitor social distancing, make public announcements, or disinfect public spaces.

The indisputable utility of drones in the current health crisis may well accelerate their deployment and may lead to increased social acceptance for the use of these tools. As some forms of physical distancing and even of confinement will probably stay in place for some time, devices that can carry out specific tasks without human contact may even see continued demand. Positive experiences with drone deliveries and other services they can provide could lead to a permanent shift in attitudes towards drones that may go beyond the immediate use of drones during the crisis.

The regulatory framework for the operation of drones is evolving in most countries. At the time of the Covid-19 outbreak, regulations were still mostly restrictive. Drone use was limited, *inter alia*, out of concern for potential safety, security, privacy and environmental issues. Critics also raised issues related to equity (will drone services be only for the well off?) or employment (will jobs be lost due to automation?), to name some of the most important. Their deployment during Covid-19 crisis has thus been based on pragmatic interpretation of the rules, administrative exemptions for specific use cases and, in some cases, also fast-track (partial) deregulation.

The practical experience shows that governments should adapt airspace regulation to accommodate and make even better use of drone applications in future emergencies. Lessons learned during the crisis and from examining the use-cases that prove to be of societal benefit during the Coronavirus crisis may even encourage updates to drone regulation that go beyond the use of drones in times of crisis. This Brief provides an – necessarily preliminary – overview of practical use cases of drones that have emerged in the era of Covid-19 so far. The focus is on drone applications for the movement of goods, for the monitoring of peoples' movements and their regulatory context.

Contact-free delivery

Drone operators around the globe have begun to cater to new demand induced by Covid-19. They deliver supplies, medical and other, with a minimum of human interaction, thus helping to limit the risk of human-to-human transmission of the Coronavirus.

Hit first by the virus, **China** was also among the first countries to use drones in response to Covid-19: In February 2020, a drone successfully transported test samples and medical supplies from a local hospital in Zhejiang province to a nearby disease control centre. Its operator, Antwork, part of Japanese group Terra Drone, had been the first urban drone delivery company to obtain a license from the Civil Aviation Administration of China (CAAC), in October 2019.

Immediately after Wuhan was put under quarantine on 23 January 2020, Antwork offered to provide technical support to authorities with its drones and received permission contingent on its ability to meet certain health precautions. The operator claims to have more than halved transport time compared to ground transport and so helped to relieve stress on medical staff. Antwork has since begun assisting other medical institutions in China in a similar fashion (<u>Cozzens, 2020</u>).

In April 2020, **Ireland**'s aviation authority approved drone operator Manna Aero to deliver medication and critical supplies to roughly a dozen households under confinement in the rural town of Moneygall. The delivery works in a "closed loop" end-to-end system: local doctors prescribe medication after a video consultation; these are then dropped off at patients' homes by the drones, which can carry up to 4 kg. The operator says it can currently provide up to 100 flights a day, but looks to expand its service to other towns in Ireland and also the United Kingdom. Non-medical products such as groceries could also be delivered (<u>Chandler, 2020</u>; <u>Reuters, 2020, Molloy/Copestake, 2020</u>).

In **Switzerland**, US drone operator Matternet was cleared already in 2017 to carry out autonomous, beyond-the-line-of-sight flights to transport blood samples between hospitals in the city of Lugano for a maximum distance of 20 km and 2 kg load (Kolodny, 2017; Zorthian, 2017). However, the demonstrated capabilities of this well-established drone service were not utilised during the health crisis. As the Swiss health system switched to a Covid-19 response and standard processes were de-prioritised, the transport of blood and urine samples from the emergency room to a lab by drone was also halted (Protalinski, 2020).

In **Ghana**, US-based drone operator Zipline is supporting the Ghanaian authorities in their fight against Ciovid-19 since 1 April by providing a "contactless drone delivery" service that collects coronavirus test samples from 1 000 rural health facilities and delivers them to laboratories in Accra and Kumasi. (<u>Reuters, 2020</u>).

This alternative to long and arduous transport across difficult terrain by vehicle has reduced the transit time of test samples from many hours to less than one hour in some cases. Zipline plans to conduct daily flights of test samples as long as needed (<u>Reuters, 2020</u>; <u>Muller, 2020</u>).

The rapid implementation of this specific use of drones as the Covid-19 crisis unfolded was facilitated by an existing collaboration between Zipline and the Ghanaian government. Zipline is operating the world's largest drone delivery network in Ghana, with up to 600 flights per day that deliver vaccines to 2 000 hospitals across the country. Zipline, which has had a presence in Rwanda since 2016, had been working in Ghana since April 2019 and airspace regulations had already been adjusted to permit drones to carry out such flights (<u>McBride 2020</u>; <u>ITF, 2019</u>).

In the **United States**, Zipline has been granted permission by the Federal Aviation Administration (FAA) to deliver medical supplies and personal protective equipment in a contactless manner to a medical centre in Charlotte, North Carolina, in response to Covid-19. This is the longest-range drone delivery service approved in the US so far. (Bright, 2020; Porter 2020).

Major US companies like Amazon and Alphabet (parent of Google) have been exploring the use of drones for some time. Wing, the drone subsidiary of Alphabet, has been running deliveries in the rural town of Christiansburg, Virginia, since October 2019. With the onset of the Covid-19 crisis, enrolment in, and orders through, Wing have risen sharply. Wing drones deliver pharmacy orders, daily necessities like toilet paper, and take-out meals to local residents, usually within ten minutes. The service alleviates pressure on traditional last-mile delivery providers and has helped local firms stay in business despite confinement (Dwyer, 2020).

Surveillance and enforcement

Surveillance is another increasingly common use case for drones in the Covid-19 crisis. Again, **China** took the lead and deployed surveillance drones early during the pandemic, with other countries across the world following suit (Liu, 2020).

In **France**, the police have used drones to monitor compliance with lockdown measures, especially in public spaces such as parks and beaches (Mogg, 2020). In **India**, police in Hyderabad have deployed two drones to identify "sensitive" areas where people are not following lockdown requirements. This information is then used for the targeted deployment of police officers (Choudhary, 2020).

In March, **Italy's** civil aviation authority ENAC exempted local police forces from regulatory restrictions on drone operations after receiving requests from "many local police units" to monitor the movements of citizens during the pandemic (<u>Holroyd, 2020</u>). Authorities have also used loudspeaker-equipped drones as flying public address systems to remind citizens to respect physical distancing requirements in public spaces – for instance in Italy and in several US states. There, authorities have also used drones for communicating to specific communities difficult to reach by more common means, such as homeless people (<u>Santocchia, 2020</u>: <u>Guerrero, 2020</u>).

A more advanced, and still experimental, use case has been to install thermal cameras on drones to identify potentially infected citizens by their body temperature. This practice has been reported from **China, India, Italy, Oman** and **Colombia**, among others. Its efficacy is contested, however (<u>Greenwood, 2020; Acosta, 2020</u>).

The ability of drones to provide a bird's eye view and fly over areas inaccessible e.g. by police vehicles fills an important need from a crowd management perspective. However, privacy concerns have put an end to drone surveillance in some cases. In mid-May 2020, **France**'s constitutional court banned the use of camera-equipped police drones to help contain Covid-19, ruling that this constituted "a serious and manifestly unlawful infringement of privacy rights" (Fouquet/Sebag, 2020; Jacqin/Normand, 2020).

Hygiene applications

Improved hygiene is one of the imperatives imposed on affected societies by the Covid-19 health crisis. Drones have emerged as an effective tool that can sanitise large spaces and help lower the risk of infection for humans. In **China**, more than 900 km² in 20 Chinese provinces have been disinfected using a total of 2600 drones, according to reports (<u>BBC, 2020; Counterpoint, 2020</u>).

In **South Korea**, drones used in the city of Daegu sprayed an area of 10 000 m² in around ten minutes. In India, disinfection with drones was carried out in Delhi and Indore City, Madhya Pradesh (<u>Counterpoint, 2020</u>). In the **US**, drones have been tested for large-scale disinfection of seats in sports arenas and concert halls (<u>ABC, 2020</u>).

Regulatory issues

Existing airspace regulations often appear to limit the use of drones in the fight against Covid-19. The case of **Italy** shows that this does not necessarily only apply to private drone operators. Here, also enforcement agencies were required to obtain waivers first, to make use of drones during the pandemic.

In the **US**, regulation requires operators to prove that the use of drones is necessary to respond to an emergency. Given the resulting delays in deploying drones, the benefits of drones during an emergency cannot be fully exploited. Some US aviation experts worry that waiving regulations in a rush to deploy drones in emergencies may cause unforeseen problems, however. Privacy issues are one concern; a fragmentation of the governance for low-altitude airspace is another (<u>Pressgrove, 2020</u>). Safety must also be carefully considered where drones transport sensitive or hazardous items (<u>Kolodny, 2017</u>).

The drone industry is clearly reckoning that the pandemic provides opportunities to test and assess different use cases for their products. The experiences gained during the crisis may even lead to a faster development of the sector. A Chinese drone manufacturer has claimed that the Coronavirus has been "an excellent catalyst" that "will fast-track our growth" (Liu, 2020).

The Small UAV Coalition, a US drone industry association, wrote to the US Secretary of Transportation and the FAA Administrator on 19 May 2020 to reiterate a request made originally in March to "waive the prohibition on commercial [drone] package delivery operations" (Small UAV Coalition, 2020). Likewise, a group named "DroneResponders" (itself part of an initiative called "Drones for Good" set up by a private investor), is promoting drones as an emergency response tool, and specifically use cases and demand scenarios related to Covid-19 (DroneResponders, 2020).

Overall, it appears that even if countries prefer a cautious approach to drones, establishing a regulatory framework for drones now that takes into account concerns beyond safety may help improve emergency responses in the future.

Lessons from Covid-19 state support for maritime shipping

Covid-19 Transport Brief, 23 October 2020

State support packages are helping the shipping industry to deal with the Coronavirus crisis. Government support comes in many forms but usually without strings attached – and rarely aligned to broader policy objectives. A rethink is needed.

The Covid-19 crisis has a profound impact on the shipping industry. Passenger sea transport in particular has suffered heavy setbacks in volumes. Ferry services and cruise shipping were strongly affected by border closures and other restrictions on citizens. Cargo sea transport also faced reduced demand, but container shipping in particular managed to compensate by withdrawing ship capacity and increasing prices.

Many governments have put in place additional support measures for shipping, on top of the broadly aimed support to mitigate the overall economic fallout from the Coronavirus crisis, including instruments that could have significant impact on the shipping sector such as changes in the terms of export credits.¹ At least 13 countries have implemented state support for the shipping sector in recent months, according to a preliminary inventory of support packages compiled by ITF (see table).

This inventory may understate the level of government support for shipping, as there is currently no systematic data collection on state aid for the maritime sector. Even the European Union's state aid database does not contain all known support measures for the shipping industry, although EU member countries are supposed to notify state aid.

State support to mitigate Covid-19 impacts on shipping is in large part directed towards ferry and cruise shipping companies. These are the targets of more than half of known aid packages, with nine out of the 17. Ferry companies receive state support in Estonia, Finland, Greece, Italy, Sweden and United Kingdom – countries where ferries provide important means of international or domestic connectivity.

Cruise companies benefit from aid in the United Kingdom, France, Hong Kong (China) and possibly in Germany in the near future.² France, South Korea and Chinese Taipei also provide support to their container shipping companies. Support packages in other countries target the entire shipping sector, not one particular segment.

The form of Covid-19 state aid for shipping companies differs. Some schemes compensate operators for lost revenues from having to idle vessels, e.g. because of border closures. This is the approach taken towards ferries in particular. Compensation can involve direct grants (as in Estonia) or tax exemptions (as in Sweden).

Schemes diverge substantially in their largesse. For example, the Estonian scheme allows compensation up to 80% of the revenue foregone of four ferry companies (granting EUR 20 million), whereas the Swedish scheme provides EUR 9.5 million for ten ferry companies to compensate for wage-related costs, estimated to be 10 to 20% of their forgone revenues.

Most support packages provide liquidity support in the form of loan guarantees and "free liquidity" from state banks. Most of the liquidity support is made available to very large shipping companies with high levels of debt acquired before Covid-19. Various countries have also temporarily reduced port fees (e.g. Singapore and Hong Kong).

Country	Beneficiaries	Main measures	Mio EUR
Singapore	Shipping companies, seafarers	Reduction of port dues	20
South Korea	HMM	Liquidity support	600
South Korea	Maritime companies	Liquidity support	1 000
United Kingdom	Cruise shipping companies	Liquidity support Bank of England Covid Corporate Financing Facility (CCFF)	350
United Kingdom	Ferry operators	Support for ferry routes UK-Northern Ireland, and UK - Continental Europe	63
Germany	No details available	Innovation, research, shore power, LNG bunkering, fleet renewal, cleaner ships	1 000
France	CMA CGM	Loan guarantee	1 050
France	MSC Cruise	Refinancing of loans by public development bank SFIL (formerly Société de financement local)	2 600
Finland	Maritime firms crucial for security of supply	Loan guarantees	600
Sweden	Eight ferry companies	Tax reduction for ten idled ferry ships	10
Estonia	Four ferry companies	Grant to compensate for lost revenues	20
Croatia	Maritime companies	Loan guarantees	80
Ireland	Three ferry companies	Support for costs of five ferry routes	15
Greece	Ferry companies	No details available	35
Italy	Ferry and cruise companies	Tax breaks, lost revenue compensation	85
Hong Kong, China	Ferry and cruise companies	On-off subsidies (ferries), waiving of rent and fees, refund of berth deposits (cruise)	n.a.
Chinese Taipei	Yang Ming, Evergreen	Credit facility and loan interest subsidies	850

Compilation: International Transport Forum from EU State Aid Database³, government agencies⁴, media reports⁵

Almost no strings attached

Aid schemes usually include safeguards to avoid that firms will be overcompensated. Beyond that, however, governments rarely impose conditions designed to achieve public policy objectives other than the immediate goal of mitigating economic losses for the shipping sector due to Covid-19.

A notable exception is Finland. The Finnish government imposes three conditions on aid recipients: first, they must carry products "deemed essential for the security of supply". Second, they must represent a sufficiently large transport capacity, defined as the ability to move at least 5000 tonnes per week. Third, they must offer regular transport services, defined as services operating several times per week for perishable goods and at least once a month for more durable goods.⁶ Another exception is Germany that has reserved part of its maritime support package for cleaner ships and maritime innovation.

The missing link between Covid-19 subsidies and broader policy goals is part of a larger phenomenon. State aid for the maritime sector in general is subject to limited conditions only. Like aviation, the large majority of support measures for shipping include no conditions on economic, social or environmental objectives.⁷ Most countries do not even report on the impacts of their maritime state aid scheme.⁸

In the European Union, 22 countries levy a tonnage tax from shipping companies – a sector-specific and generous tax regime that can replace the corporate income tax. Yet only Norway and Portugal have a tonnage tax scheme that includes incentives to improve the environmental performance of ships, and only the United Kingdom requires recipient shipping companies to train seafarers.

The lack of conditions for support received also applies to other shipping policies. The European Union exempts liner shipping companies from EU competition regulation, known as the Consortia Block Exemption Regulation. This stipulates that the whole transport system should benefit from the exemption, but in practice the European Commission has limited its scope to price reductions for customers, rather than any wider goals, such as connectivity, reliability and sufficiently regular services.⁹

State aid and taxation

The shipping industry benefits from tax exemptions on a very large scale. A substantial share of the world's shipping companies is incorporated in tax havens. Most ships sail under "flags of convenience" (open registries) that offer favourable tax treatment. Many countries have generous shipping-specific tax exemptions or regimes such as the tonnage tax.

The world's four largest cruise companies made a profit of USD 26 billion in the years 2015-19. Over the same period, they paid just USD 32 million of taxes. This represents an effective tax rate of little over 0.1%. Three of those companies, although headquartered in the US, are incorporated in Panama, Liberia and Bermuda so they do not qualify for US federal support under the CARES Act. The European Commission sent a similar signal when it recommended that member states should not grant financial support to companies with links to countries that are on the EU's list of non-cooperative tax jurisdictions.¹⁰

These political interventions have resulted in state aid for cruise companies in less visible ways. Liquidity support for shipping lines has come from central banks (for instance in the UK¹¹) and national development banks (in France¹²), even though the recipients have extensive links to shipping registries in countries on the EU list.

The ferry sector has different issues. Ferry companies rarely face global competition, often the main justification for state support, outlined for instance in the EU's Maritime State Aid Guidelines of 2004.

More generally, the EU has continued to expand regular maritime state aid schemes, in addition to approving the Covid-19 state aid for shipping. As such, it has perpetuated the shortcomings analysed in a recent ITF report on maritime subsidies¹³, namely tax competition¹⁴, market distortion¹⁵ and expanding scope¹⁶.

Shadow subsidies

The Covid-19 crisis has also seen the emergence of "shadow subsidies" in container shipping. Shadow subsidies are transfers from consumers to producers that result from constraints on competition contained in shipping regulation. Confronted with reduction in demand for containerised trade, the main container carriers jointly withdrew ship capacity by cancelling scheduled voyages, so called "blank sailings". Between February and June 2020, approximately 20 to 30% of the container ship capacity on the main trade lanes was idled.¹⁷ The artificially created scarcity pushed up the price to ship a container. Freight rates rose particularly strongly on the Trans-Pacific trade lane, but many other routes also saw increases despite the drop in containerised trade volumes (see chart).

Because of these remarkable shifts in freight rates, container carriers made large profits in the first half of 2020. The profit margin of ten main container carriers in the second quarter of 2020 was 8.5%, the highest since the third quarter of 2010, according to Alphaliner.¹⁸



Figure 1: Containerised ocean freight rates developments per week in selected trade lanes

Note: Shanghai Containerised Freight Index: spot rate (USD) to ship a container from Shanghai to North Europe, Med, US West Coast and US East Coast. Source: International Transport Forum based on data from Shanghai Shipping Exchange

These profits could be viewed as a shadow subsidy paid for by consumers. By managing to push up the price above its level under competitive conditions, carriers have in effect reduced consumer welfare. This shadow subsidy comes on top of state support in some cases: at least four of the main container carriers have also benefited from the Covid-19 aid.

This development raises concerns for competition authorities. Chinese authorities have recently asked carriers for explanations and requested that they re-instate cancelled services on the Trans-Pacific trade lane.¹⁹ In the United States, the Federal Maritime Commission has also announced to investigate the blank sailing strategy of carriers.²⁰ At the time of writing, the European Commission had not (yet) taken action.²¹

State involvement in shipping companies

The Covid-19 maritime state aid packages also raise questions about state involvement in shipping companies. Different approaches to this exist around the world. In most OECD countries, the tendency over the past few decades has been to reduce state involvement in companies via privatisation and sale of government shares. In various emerging economies, notably in Asia, governments remain actively involved in the business of maritime shipping and companies are often state-owned and the instrumental to state objectives.

In practice, several segments of the shipping industry are now hybrid sectors. Six of the ten major container-shipping firms have governments as shareholders. This is for example the case for the Germany-based Hapag Lloyd and France-based CMA CGM. In the case of CMA CGM, the state has a seat on the company board and a veto on certain strategic decisions. A number of governments even hold a majority stake in what are considered "national" container shipping companies - this is the case in China, Korea and Chinese Taipei. In all of these countries, interlinkages between state and container shipping are frequent, irrespective whether state involvement is larger or smaller.

The EU obliges member states to sell any equity in an enterprise after a maximum of six years, a rule reiterated in the European Commission's "Temporary Framework for State Aid Measures to Support the Economy in the Current Covid-19 Outbreak".²² Yet such a restriction on state ownership must not always be in the public interest. After the German city state of Hamburg bought a large stake (up to 36%) in Hapag Lloyd in 2008 – cleared by the European Commission in 2009 - in order to

avoid a take-over by Singapore's Neptune Orient Line; it was obliged to sell its shares in 2015 for half the price it paid earlier.²³

Policy implications

State aid for the maritime sector during the Covid-19 pandemic mitigates the negative economic impacts of the crisis on the shipping sector. Yet it also raises questions regarding the stringency of government policies with respect to desired outcomes. The following insights could serve as starting points for a review of the policy framework for maritime shipping:

- Intensify the monitoring of competition. The level of consolidation and cooperation in segments of the shipping industry makes possible effective collusion to reduce competition. The recent joint efforts of container lines to eliminate capacity through a coordinated strategy of blank sailings raises many questions of concern to competition authorities and merits investigation. Liner shipping requires continuous monitoring and corrective action when inappropriate behaviour occurs. The freedom granted to liners by the EU's Consortia Block Exemption Regulation to manage capacity jointly and to exchange information is prone to abuse.
- Widen the scope of shipping competition policy. Maritime competition policy has often been narrowly focused on the price for customers. It should also take account of market power vis-à-vis suppliers and a wider set of indicators related to service quality, connectivity and environmental performance. A call for proposals on greening competition policy and state aid recently announced by the European Commission²⁴ should be used to start greening the EU Maritime State Aid Guidelines, the tonnage tax and the Consortia Block Exemption Regulation. An alternative to widening the scope of shipping competition policy would be to loosen the restrictions on state involvement in companies.
- Create a global level playing field in maritime state aid. Including shipping in Pillar 2 of the Global Anti-Base Erosion Proposal ("GloBE") of the G20/OECD would help to create a universally applicable set of rules and comparable conditions for the sector. The proposal foresees a minimum tax for multinational enterprises that would eliminate the incentives for tax avoidance and set the bottom for global tax competition. If the shipping industry should not be included in GloBE, international negotiations on maritime subsidies and tax exemptions ought to be initiated. At the regional level, more active initiatives for tax convergence could be launched. In the EU, the Maritime State Aid Guidelines with regard to the maximum permissible subsidies and tax exemptions could be clarified and more rigorously applied.
- Tackle market distortions resulting from state aid for the maritime sector. Competition authorities should avoid taking decisions that distort markets, as happened with the European Commission's approval of tonnage tax schemes that cover cargo handling in ports.²⁵. This has resulted in undue advantages for vertically integrated shipping groups and should be corrected.
- Focus maritime state aid on strategic supply chains. State aid for shipping has proliferated over past decades. Often, expansion of aid has not been driven by objective assessments of potential benefits for the provider. Maritime sector support should be targeted more strategically to help achieve broader objectives than mitigating losses for recipients. The Finnish Covid-19 package provides an example by linking state aid to the policy objective of supply security.

Notes

- ¹ <u>http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=TAD/ECG%282020%2910&docLanguage=En</u>
- ² https://asia.nikkei.com/Business/Business-trends/Asia-cruise-giant-Genting-secures-227m-in-German-aid
- ³ https://ec.europa.eu/competition/state aid/cases1/202022/286316 2160382 30 2.pdf; https://ec.europa.eu/competition/state aid/cases1/202028/286880 2170959 55 2.pdf; https://ec.europa.eu/competition/state aid/cases1/202028/286999 2172527 56 2.pdf; https://ec.europa.eu/competition/state aid/cases1/202027/286654 2169310 54 2.pdf
- https://ecceuropa.eu/info/sites/info/files/2020-european-semester-stability-programme-greece_en.pdf;
 https://www.bundesfinanzministerium.de/Content/DE/Standardartikel/Themen/Schlaglichter/Konjunkturpaket/2020-06-03-eckpunktepapier.pdf?
 blob=publicationFile&v=19; https://www.gov.uk/government/news/17-milliongovernment-package-to-protect-freight-routes-to-northern-ireland
- https://www.mpa.gov.sg/web/wcm/connect/www/ab1a63a5-e9f6-4129-a968a861973171a4/Overview+of+measures+%2828+May+2020b%29_Final.pdf?MOD=AJPERES; https://www.gov.uk/government/news/17-million-government-package-to-protect-freight-routes-to-northern-ireland; https://www.mpa.gov.sg/web/wcm/connect/www/ab1a63a5-e9f6-4129-a968a861973171a4/Overview+of+measures+%2828+May+2020b%29_Final.pdf?MOD=AJPERES; https://www.coronavirus.gov.hk/pdf/fund/20200408_supplementary_information_en.pdf; https://www.mef.gov.it/covid-19/index.html; https://www.bankofengland.co.uk/markets/bank-of-england-marketoperations-guide/results-and-usage-data.
- ⁵ <u>https://merrionstreet.ie/en/News-</u> <u>Room/Releases/Government Support Measures for Strategic Maritime Connections.html;</u> <u>https://theloadstar.com/ferry-operators-to-receive-35m-cash-injection-to-keep-cargo-moving/;</u> <u>https://www.mediapart.fr/journal/france/260620/affaire-kohler-l-ardoise-de-msc-s-eleve-26-milliards-d-euros-pour-l-etat;</u> <u>https://www.alphaliner.com</u>.
- ⁶ https://ec.europa.eu/competition/state_aid/cases1/202022/286316_2160382_30_2.pdf
- ⁷ <u>https://www.itf-oecd.org/sites/default/files/air-connectivity-covid-19.pdf</u>
- ⁸ https://www.itf-oecd.org/sites/default/files/docs/maritime-subsidies-value-for-money.pdf
- ⁹ EC (2019), EC Staff Working Paper
- ¹⁰ <u>https://ec.europa.eu/commission/presscorner/detail/en/ip_20_1332</u>
- ¹¹ <u>https://www.bankofengland.co.uk/markets/bank-of-england-market-operations-guide/results-and-usage-data</u>
- ¹² <u>https://www.mediapart.fr/journal/france/260620/affaire-kohler-l-ardoise-de-msc-s-eleve-26-milliards-d-euros-pour-l-etat</u>
- ¹³ <u>https://www.itf-oecd.org/sites/default/files/docs/maritime-subsidies-value-for-money.pdf</u>
- ¹⁴ Estonia's tonnage tax scheme is the most attractive within the EU and aims to attract non-Estonian ship-owners from EU member states. As such, it seems to contradict the objective of the EU Maritime State Aid Guidelines to avoid a "subsidy race between member states". <u>https://www.itf-oecd.org/sites/default/files/docs/passenger-mobility-goods-transport-estonia.pdf</u> and <u>https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52004XC0117(01)&from=EN</u>
- ¹⁵ In June 2020, the EU extended Italy's tonnage tax regime which defines cargo handling in ports as "ancillary activity" of maritime transport covered by the tonnage tax. As a result, terminal operators integrated in shipping companies (that can reduce their tax expenses) are treated more favourably than and non-integrated terminal operators. https://ec.europa.eu/competition/state aid/cases1/202030/272414 2175193 193 2.pdf
- ¹⁶ In April 2020, the EU approved Croatia's modified tonnage tax scheme that brings commercial yacht owners under the scope of the scheme. <u>https://ec.europa.eu/competition/state_aid/cases1/202018/282852_2152628_145_2.pdf</u>
- ¹⁷ <u>https://www.itf-oecd.org/sites/default/files/global-container-shipping-covid-19.pdf</u>
- ¹⁸ <u>https://www.alphaliner.com</u>
- ¹⁹ https://lloydslist.maritimeintelligence.informa.com/LL1133882/Carriers-summoned-by-China-to-curb-transpacificmarkups
- ²⁰ <u>https://llo list.maritimeintelligence.informa.com/LL1133960/US-warns-box-lines-against-transpacific-collusion</u>
- ²¹ https://shippingwatch.com/carriers/Container/article12416589.ece
- ²² https://ec.europa.eu/competition/state aid/what is new/TF consolidated version amended 3 april 8 may and 29 ju ne 2020 en.pdf
- ²³ https://ideas.repec.org/h/elg/eechap/17212 8.html
- ²⁴ <u>https://ec.europa.eu/commission/commissioners/2019-2024/vestager/announcements/green-deal-and-competition-policy_en</u>
- ²⁵ <u>https://www.itf-oecd.org/sites/default/files/docs/maritime-subsidies-value-for-money.pdf</u>

Stimulating post-pandemic recovery through infrastructure investment

Covid-19 Transport Brief, 3 March 2021

The Covid-19 crisis has significantly suppressed global economic activity. In 2020 alone, eurozone GDP dropped by 7.5%, while average global GDP showed a 4.5% contraction (OECD, 2020). Many governments have stepped in to cushion the impact on households and business. Much of the spending has been to ensure businesses are still viable once authorities can safely remove the restrictions imposed on social and economic activity to limit the spread of the virus. This will enable activity to bounce back but full economic recovery will require additional stimulus. Infrastructure investment is one path to achieve this and is widely regarded as an effective way to spur economic activity. It raises two important policy questions: how to prioritise projects and what method of project financing to adopt?

Tried and tested: Reviving the economy through infrastructure investment

Experts agree that investment in infrastructure can provide a boost to economic activity. This was one of Keynes' main policy measures for recovery from the depression of the 1930s and was adopted as one of the cornerstones of the "New Deal" in the US. Following the experience of this century's global financial crisis, there is also now widespread consensus that austerity measures in the aftermath of a crisis are counterproductive. If a country can borrow on the financial markets to re-start the economy with public investment, it should do so. These were key messages from the annual World Bank and International Monetary Fund (IMF) meeting in October 2020 (Giles, 2020).

Takeaways from this Brief

- Infrastructure investment is a tried and tested way to successfully stimulate economic activity following a crisis.
- Policy makers should prioritise projects that can deliver jobs and growth in the short- and medium-term.
- The focus should be on projects already in the pipeline, with cleared planning and environmental approvals.
- Interventions should be Timely, Targeted, and Temporary: the IMF's TTT principle.
- Governments must properly estimate and budget the life-cycle consequences of investments.
- Stimulus packages should aim to advance decarbonisation, social equity and resilience.
- PPPs are unlikely to be suited to recovery needs: authorities should look to publicly-funded projects.

The immediate economic boost from infrastructure investment comes through spending on construction activity; every dollar spent generates additional economic activity. In its recent report, the Global Infrastructure Hub (GIH, 2020) showed that the short-term fiscal multiplier on average reached 0.80 within one year, and 1.53 within 2-5 years. This result was calculated from a sample of over 3 000 estimates from past studies in developing developed and countries. The results reported by the GIH (Table 1) also showed that the multiplier effect from public investment is typically significantly higher than spending for other purposes, such as social transfers, where the 2-5 year multiplier was estimated at 0.84. The multipliers are higher for investments made in periods of contraction in the business cycle, when labour markets are not tight, and in an environment of low interest rates.

Fiscal measure	Cumulative Multiplier (within 2 to 5 years)
Public Spending (all forms of spending)	0.98
Public Investment	1.53
Public Consumption	1.12
Transfers	0.84
Tax Interventions	0.49

Table 1. Multiplier Estimates by Fiscal Measure

Note: The 'Public Spending' category is used where there is insufficient information to determine the type of public spending. It is not an average of other items in the table and does not include multipliers for Tax and Transfers as these were able to be isolated and analysed separately in the literature.

Source: Global Infrastructure Hub and Cambridge Economic Policy Associates (GIH, 2020).

Infrastructure investment also has a long-term impact on productivity growth and can therefore increase growth in GDP in the long term, though those impacts are smaller and their magnitude is uncertain. The GIH report estimates the average elasticity of private GDP to public capital stock at around 0.19, which implies that a 1% increase in the total value of public capital stock is expected to increase output by approximately 0.19% every year. This long-term impact is difficult to measure. Not all public capital is infrastructure, some infrastructure is private, and at these elasticities the additional infrastructure would pay for itself in about one year, which is unrealistic, i.e. the elasticities are severely overestimated. Once the methodological issues are resolved, more robust estimates will likely be much lower (Straub, 2008).

The short- and medium-term impact of public infrastructure investment on jobs and economic growth is what matters for recovery from the effects of the Covid-19 pandemic, as the economy needs a stimulus that will work quickly. The Covid-19 crisis is different from the financial and economic crisis of 2008 as it was caused by intervention to suppress activity and not by collapse of a financial bubble or fiscal imbalances. A rapid bounceback of activity is expected, as was seen when the first round of lockdowns ended. However, extended suppression of activity is creating fiscal imbalances and the risk of another financial crisis. The longer intervention continues, the deeper the scarring of the economy and the higher the risk of extensive unemployment. Large-scale stimulus will be needed to counter these effects.

Choosing infrastructure investments for maximum impact

Maximising the benefits of increased infrastructure spending in a world recovering from the Covid-19 pandemic requires a conceptual framework that will help policy makers define what types of investments to pursue and where. Based on the lessons from past stimulus packages, the IMF has distilled three key principles: interventions should be Timely, Targeted, and Temporary (TTT). It also proposed decision criteria of efficiency, equity and effectiveness (Table 2). These criteria will sometimes be in conflict. For example, pursuing efficiency may lead to an increase in regional inequities. Decision makers need to acknowledge the importance of each criterion and will need to adopt conscious and considered trade-offs among them when choosing projects.

Criteria	Medium-term measures for recovery
Efficiency	Resources should be allocated to spending with higher benefits (economic and social) compared to costs.
Equity	The impact of investment projects on different groups and sectors should be consistent with established political priorities.
Effectiveness	Increased investment spending should contribute to an overall fiscal stimulus of the required magnitude and timing over the medium term.

Table 2. Objectives of public investment adjustments

Source: Eivind and Allen (2020).

There are several trade-offs between the TTT criteria that governments should keep in mind:

- Speed vs efficiency. Infrastructure planning, project selection, procurement processes and the acquisition of permits to start construction are detailed and time-consuming processes. Cutting corners in these areas is likely to lead to major problems during and after construction. For example, the New Zealand government has established a special advisory group¹ to create a short-list of projects, which could be subject to an accelerated delivery process. The "acceleration" includes omitting public consultation. It is not clear that such a move would bring many projects to a shovel-ready status at a significantly earlier time, since project gestation consists of many steps before procurement can begin. Conversely, omitting such a step could lead to serious complications (e.g. protests or legal action) during project construction itself, leading to delays and cost overruns. In the absence of strong transparency and accountability mechanisms, attempts to "accelerate" are also highly exposed to the risk of moral hazard.
- Equity vs efficiency at the central government level. The efficiency criterion implies that investments with the highest benefit-to-cost ratios should be preferred, while the equity objective requires that investments be broadly distributed and include investments to serve communities with lower incomes. The highest benefit-to-cost ratios are achieved when investment flows to places where there already is a significant economic mass, i.e. a high level of economic activity. However, those hit hardest by the crisis are most commonly people on low incomes who do not live in the places generating the highest levels of economic output. While some investments may serve both of these criteria, many of the potential projects that would significantly improve the lives of those less well off will not demonstrate the highest available benefit-to-cost ratios. The fiscal multiplier from construction activity would be the same, but the long-term impact on productivity would differ. This would mean less inequity, but in the long term also smaller growth in GDP. Decisions regarding these trade-offs are necessarily political in nature.
- Equity vs efficiency and allocation between central and regional government levels. Increasing the scale of the infrastructure stimulus package may also imply allocating a greater share of spending to regional governments. Capacities and capabilities of regional governments for delivering infrastructure projects, especially larger ones may be much more limited than those of central government, where a steady flow of infrastructure projects concentrates capacity to deliver (e.g. <u>Baltrunaite et al., 2018</u>). On the other hand, where local government has seen funding from central government for local investment progressively reduced, reversing the trend may be one of the quickest ways to deliver projects.

Combing the transport perspective with operational recommendations from the IMF, the GIH, the OECD and industry (e.g. <u>Eivind and Allen, 2020</u>; <u>GIH, 2020</u>; <u>Castagnino et al.</u>, <u>2020</u>; <u>Agrawala, Dussaux and Monti, 2020</u>), yields the following guidelines:

- Governments must properly estimate and budget for the life-cycle consequences of investments, i.e. the maintenance of infrastructure assets, even when spending is undertaken primarily to accelerate recovery from an economic crisis.
- Potential projects appraised prior to the crisis should have assumptions checked, particularly those likely to be affected by the crisis, in order to determine whether they remain viable (ITF, 2021). The current crisis may have profound long-term impacts, for example on travel demand for commuting around cities. It is conceivable that the prolonged lockdown experience has substantially increased the propensity of employers to subscribe to teleworking, which would change travel patterns. Cases where behavioural changes underway prior to the crisis resulted in transport models overestimating demand have been identified (e.g. Chatterjee in ITF, forthcoming) and the crisis may have accelerated change. At the same time, a return to previous travel patterns is also a credible scenario. Projects that hold up under both extremes will show the most robust returns and projects that improve chronically-deficient transport services are likely to be beneficial under all scenarios.
- Capacity issues can be expected to arise in executing large stimulus packages, both in government and in the private sector. Hence, the volume of public procurement in the transport sector should take account of these capacity constraints, and construction activity across all infrastructure sectors. This can be challenging due to opposing market forces in the current crisis. On the one hand, general construction activity typically declines in recession, providing the space for additional government activity (<u>Castagnino et al., 2020</u>). On the other hand, at least initially, limited movement of migrant workers may affect the overheating thresholds of construction markets².
- Many of the projects that would fit the TTT criteria best are likely to be infrastructure maintenance projects, since these can start relatively quickly. Maintenance backlogs are frequent in transport sectors funded by annual allocations from the general public budget. At the same time, where countries have been successful in establishing efficient transport infrastructure asset management regimes there will be less scope for identifying productive additional maintenance projects.
- Mega-projects that are not already in the process of delivery are unsuited to stimulus packages. The time taken to plan and deliver such projects exceeds the relevant recovery period and the resources required to develop mega-projects are likely to divert government and project management capacity from projects that can be initiated quickly.

- Stimulus packages have the potential to advance decarbonisation and improve social equity. Traffic reductions due to social distancing measures have provided a unique opportunity to accelerate the reallocation of road space to public and active modes of transport. These interventions are not necessarily capital-intensive but they do employ local labour. They may be much more difficult to implement if traffic is unmanaged and returns to pre-crisis levels. More generally, investments should be compatible with long-term decarbonisation policy objectives.
- To support the effectiveness and the legitimacy of investment allocation to satisfy the TTT criterion, mechanisms for project monitoring and accountability should be established, with procedures to resolve implementation issues. Transparency and public access to information will be an important part of such mechanisms.

Private finance cannot save the day

Private financing is frequently advocated as a solution to the fiscal constraints facing governments. However, the uncertainty of an economic downturn makes private finance in infrastructure more expensive, requiring additional risk to be reallocated to the public sector by project financers (<u>Makovšek, 2018</u>). The ITF finds that public-private partnerships (PPPs) only achieve value for money under very specific conditions, which were not met in the majority of privately-financed projects undertaken in the past (<u>ITF, 2018</u>)³.

Why PPPs cannot truly extend the public borrowing constraint

As pointed out by the IMF (ITF, 2013) and some experts (Engel, Fischer and Galetovic, 2014), it is well-established that PPPs cannot actually extend the borrowing constraint of a government, i.e. enable additional investment. The misconception derives from the widespread use of non-transparent public debt accounting rules and a lack of awareness of available public sector mechanisms that could be used for the same purpose as PPPs (Makovšek, 2019; Moseley, 2020; Roumboutsos, 2020). Outdated public accounting standards that do not provide an appropriate treatment of the obligations associated with PPP contracts and consequently lack transparency, mask the implications of PPP contracts for public budgets. The obligations associated with a large proportion of PPPs have, as a result, been excluded from the public balance sheet.

The politics may favour asset financing mechanisms that reduce the apparent amount of public debt⁴. However, regardless of whether the PPP is funded under an "availability based" contract or through user charges (e.g. tolls), there is a long-term payment obligation associated with the PPP, which is conceptually equivalent to the repayment of government debt in the case of publicly- financed infrastructure. The government ultimately controls the rate of return on these assets through regulation of service standards or tariffs. Government (or user) ability to service these obligations is not affected by whether the initial borrowing is undertaken by the government or a PPP consortium. Recently developed accounting standards, such as IPSAS32, have recognised this equivalence, though they are yet to be widely adopted.

In sum, the use of PPPs to extend the public funding boundary exposes the public sector to poor value for money outcomes. The post-crisis stimulus context is one in which these risks are particularly acute due to the likely pressure to make rapid project selection and delivery decisions.

Conclusion

The projects that are most likely to deliver the required economic stimulus are those already in the pipeline, with cleared planning and environmental approvals, awaiting only funding. Maintenance backlogs in particular are suitable targets. Attempts to bypass consultation and approval processes for less advanced projects can be highly counterproductive, resulting in legal challenges and lengthy delays. New mega-projects cannot be expected to deliver anything in the timescale required. The necessary critical investment mass should be achieved by a large volume of smaller projects that can be initiated quickly, including maintenance projects. Distributing funds to local authorities for disbursement can enhance the speed of project delivery. The infrastructure stimulus should be publicly financed: making PPPs a major part of a stimulus package would be counterproductive. Finally, project selection should also take careful account of long-term policy priorities, especially addressing social equity, decarbonisation and the resilience of transport systems.

Notes

- ¹ <u>www2.deloitte.com/nz/en/pages/2020-government-budget/articles/infrastructure.html</u>.
- ² Governments might want to collect good information about the capacity of the construction and other sectors involved in the supply of transport infrastructure and maintenance services in order to establish best to meet the increase in demand on account of a stimulus package. Restrictions on economic activity due to Covid have had a very uneven impact on different sectors of the economy: while construction has remained fairly buoyant in the UK, skills and capacity in the most affected sectors such as retail and hospitality are not easily transferable to help increase the supply of transport services. Governments will need to consider retraining of domestic workers to offset this reduction in supply and in response to the stimulus to demand so as to prevent the costs of labour and other inputs from escalating. This points to a strategic plan which addresses the supply side of the stimulus. Also relevant to such a plan is the capacity of the responsible agents, whether the local authority, municipality, regional or national government to deliver their part of the stimulus in an environment in which their capabilities have been diverted to dealing with the pandemic.
- ³ ITF (2018) concluded that, outside of sea and airport projects, there is no evidence of PPPs delivering value for money. It was also determined that most PPPs in the transport sector and beyond cannot fulfil the theoretical conditions to deliver value for money and recorded that there is increasing empirical evidence to support that point. The use of PPPs was therefore recommended only in circumstances where the private party bears the demand risk and where the demand is strongly endogenous, i.e. dependent on the quality of the service (and not captive). Such circumstances can be present for example in the case of seaports, which compete for the same catchment area.
- ⁴ For user-funded entities and under the same accounting conventions as for PPPs, a state owned company can also be treated as being off the balance sheet. In Europe, many such state owned companies already exist, managing major individual assets or national networks of road infrastructure for example. If more advanced public debt accounting rules that allow greater transparency were put in place (answering to the question of who has the economic control over the assets), all PPPs (and equivalent state owned enterprises) would end up on the public balance sheet.

Gender equality, the pandemic and a transport rethink

Covid-19 Transport Brief, 8 March 2021

Covid-19 disproportionately affects women worldwide. Pre-existing inequality and the fact that the majority of healthcare and other essential workers are women underpins this significant imbalance. Women face a higher burden of unpaid care and housework than men, as well as gender-based violence. Women's travel patterns exacerbate gender inequality because of greater reliance on public transport than on private cars in many regions. In addition, women transport workers face a higher risk of Coronavirus infection because of workforce gender inequality and a lack of adequate measures to support women. Crisis responses allow a rethink of transport policies to improve gender equality. This will not only reduce the unequal impact of the pandemic on women; the long-term recovery towards more sustainable, resilient and inclusive transport will depend on measures that address the priorities of both women and men.

Why the pandemic forces us to rethink transport for equality

The pandemic highlights the existing gender inequality in transport. Women have been affected disproportionately both economically and socially because of Covid-19. Women make up the majority of essential workers, including healthcare workers, and are subject to more unpaid care and housework work and experience higher levels of gender-based violence, which has increased during the pandemic.

Takeaways from this Brief

- The pandemic offers an opportunity to improve gender equality by rethinking transport design and policies to address the needs of women transport users and workers.
- Policy responses should reduce the disproportionate risks faced by women transport users and workers by improving safety and security in transport services and the workplace.
- Greater women's participation in decision-making roles is essential to improving gender equality.
- Government policies and employer initiatives must protect women transport workers against Coronavirus as well as addressing their caring responsibilities, violence at work, commuting, and social protections including for informal workers.
- Adopt International Labour Organization (ILO) recommendations for workplace gender equality in crisis response policies.

Women are more prone to the risk of Covid-19 infection due to their travel patterns and possible lack of transport options. A higher share of unpaid care responsibilities also makes working remotely more difficult.

Existing measures for women transport workers are inadequate to mitigate their risks in both passenger transport and freight transport, especially when gender segregation in the transport workforce leads to different levels of exposure to Covid-19 for women and men.

Without a change in transport measures and without addressing the priorities of women and men, the sector will be unable to recover to achieve the goal of a more sustainable, resilient and inclusive future.

Covid-19's impact is not gender-neutral

As with other crises like natural disasters,¹ the impact of Covid-19 is not gender-neutral. Women experience greater economic and social impacts than men due to existing gender gaps, especially in industries where teleworking is not an option, and the unequal unpaid care and domestic work burden on women. Around the world, women spent between two and ten times more hours on unpaid care work than men pre-Covid-19.²

The Covid-19 pandemic has increased this burden on women due to reduced care supply.³ A higher proportion of women work in essential services. Women account for 70% of the world's health and social care workforce yet hold lower-status and lower-paid jobs in the healthcare sector, where women earn on average 28% less than men.⁴ In addition, women are overrepresented in industries hardest hit, such as food, retail and entertainment, where the pandemic has left them without jobs or income.⁵ Globally, 58% of employed women also work in informal employment: a sector where workers lost an average of 60% of their income at the beginning of the pandemic.⁶

These trends significantly heighten gender inequality in transport during the pandemic because of existing differences in travel behaviour by gender. Women travel shorter distances, chain more trips throughout the day, make more non-work-related trips, travel at off-peak hours, choose more flexible modes, make less car and two-wheeler trips, and tend to use more public transport and non-motorised modes.⁷

Women also spend on average 42% of their weekly total commuting time on the "mobility of care", such as trips related to housework and caregiving.⁸ In addition, women caregivers, both paid and unpaid, have a more substantial dependence on public transport and fewer transport mode choices. The impact of Covid-19 on travel behaviour has been significant on public transport ridership globally. The decline in public transport use around the world, reduced services, suspended routes, and varying duration and restrictions have led to changes in the supply of services. Some cities recorded a more than 90% decrease in public transport use;⁹ others saw public transport users switching from monthly to single tickets.¹⁰ As more women depend on public transport to access jobs and services, including childcare, education and health facilities, limited public transport supply affects women more than men. Maintaining accessibility for both women and men has been a key challenge during the pandemic worldwide. One study from the Netherlands showed that women have fewer transport alternatives and need more effort to reach their destination.¹¹ Another study using data from Italy, Portugal and Spain showed that women's mobility fell by 28% three weeks after the introduction of lockdowns, while that of men declined by about 21%.¹² Limitations on women's mobility will restrict accessibility to critical services and direct involvement in prevention and treatment of Covid-19, putting them in more disadvantaged positions.

Measures to improve gender equality

Various Covid-19 response measures around the world aim to promote gender equality during the pandemic. Measures include changes in transport services, like the provision of priority or free access to public transport for health and essential workers¹³ and tailored transport services for frontline workers in partnership with public entities and hospitals.¹⁴ Private sector transport services can also complement public transport, notably for healthcare staff and essential workers. Private transport operators, including ride-sharing services, MOIA, FreeNow, Lyft, and Uber, have replaced bus services during off-peak hours or have offered night services to reduce the strain on public transport systems.¹⁵

Other initiatives include demand-driven services, vehicle rentals at cost price, offering different mobility options or free transport.¹⁶ Gender-specific transport measures include free access for pregnant women who need maternal health services during Covid-19¹⁷ or digital access, for example mobile phone-based health services and smart travel applications, to avoid walking long distances or having to use other transport modes to reach health care facilities.¹⁸ Travel restrictions on some streets have allowed safer travel for cyclists and pedestrians. An increase in bike lanes and free repair stations, and measures to respace cities¹⁹ will increase transport safety for all.

In the short term, these changes can address the disruption in public transport. In the long run, they could help women by allowing more efficient trip chaining. An increase in women cyclists is an opportunity to increase the uptake of more sustainable transport modes. Ultimately, this could be more beneficial for women who do not have access to private vehicles and will also have overall health benefits.

Health and safety are paramount

The concern for both the health and safety of transport passengers and workers has been a top priority since the beginning of the pandemic. Transport operators took measures to ensure a balance between workers' safety and maintaining services so that transport networks could continue to operate in extended periods of lockdown. This is vital for women who constitute more than half of public transport users in many cities.

In order to ensure the safety of public transport users, many transport agencies around the world have adopted a set of social distancing and sanitation measures, including spaced seating, open windows, frequent cleaning and disinfection, mandatory mask-wearing, crowd monitoring, thermal screening, supervised boarding and deboarding, signage and other visual cues. ²⁰ Contactless payment through digital or electronic platforms also helps ensure passenger safety. At the same time, there also needs to be enforced protocols to avoid violence against women, especially given that over 80% of women already felt unsafe in public spaces pre-Covid-19.²¹

In urban areas, public transport and associated public spaces need measures to reduce harassment against women. In 2017, the French Île-de-France Region found that 39% of all violence against women happened in public spaces, like train stations.²² With governmental measures to contain the pandemic, the decrease of commuters could heighten safety concerns for women in public transport: stringent social distancing measures may make women even more vulnerable targets for violence and assault.²³ Some governments have identified that the problem of violence against women has worsened with social distancing measures and they have responded accordingly. Cumbria in the UK implemented an initiative to reduce the negative impact of Covid-19 on women. The police department joined forces with postal and delivery workers to identify and report signs of violence against women, reinforcing the work done online through the "Bright Sky" mobile app, which helps victims of abuse.

The government of New South Wales in Australia introduced Artificial Intelligence (AI) initially to increase women's security on public transport at night-time. They subsequently found that the technology could also be an effective security tool during the pandemic. The winning project of the "Safety After Dark" innovation challenge uses AI in security cameras to identify suspicious behaviour. Providing these types of resources in the fight against gender-based violence remains a decisive action to achieve gender equality during and post Covid-19.

Gender equality in the transport workforce

The pandemic has reinforced the existing challenges for women in the transport workforce and could have significant and long-term implications for gender equality in transport. Although the pandemic has a severe impact on all workers, there have been specific and additional adverse effects on women. This is primarily because women are disproportionately affected by inadequate policy designs, which place them at increased health and occupational risks in the transport sector. For example, the risks to men workers are better known given that occupational safety and health considerations had previously focused on jobs in sectors dominated by male workers.

However, given the increasing participation of women in the workforce, gender-related questions about the different effects of work-related risks on men and women, in terms of exposure to hazardous substances, or the impact of biological agents on reproductive health, the physical demands of heavy work, the ergonomic design of workplaces and the length of the working day, especially when domestic duties also have to be taken into account, would all need to be addressed.²⁴ This is especially critical as occupational safety and health (OSH) hazards affecting women workers have been traditionally underestimated because OSH standards and exposure limits to hazardous substances are based on male populations and laboratory tests.²⁵ In fact, work-related risks to women's safety and health have been underestimated and neglected compared to men's, both regarding research and prevention.²⁶

In 2018, women workers only represented 17% of the global transport workforce.²⁷ Where women do participate in the transport workforce, relatively few rise to managerial positions, a phenomenon that is shared by most sectors. In global supply chains and logistics, women occupy less than 20% of top executive positions across all sectors.²⁸ It is also more common for women to have less job security and lower-paid jobs than men²⁹ across the transport sector. The historically low representation of women in the transport sector creates gender-biased attitudes and barriers, as well as discriminating work environments and conditions.³⁰

These reasons have all led to a gender-segregated transport sector, where more women are working in the frontlines of the pandemic and in customer-facing and cleaning roles, which expose them to a higher risk of infection. This increased exposure, combined with a lack of adequate and appropriate personal protective equipment (PPE) and the fact that women also make up the majority of informal workers and workers in non-standard forms of employment, mean that women transport workers can disproportionately suffer the negative impacts of the Covid-19 pandemic crisis. A study in Canada found that more women than men left the workforce due to Covid-19.³¹

In response to the pandemic, the International Labour Organization (ILO) recommends including a gender perspective in all crisis responses, gender-inclusive social dialogue, and gender equality and the empowerment of women and girls for enabling recovery.³² The specific recommendations follow. These provide a framework for recovery measures by countries choosing their pathways towards greater transport sustainability and inclusivity.

- 1. Ensure that women are on all decision-making bodies.
- 2. Provide adequate income and social protection, including paid leave.
- 3. Provide access to sanitation and appropriate personal protective equipment (PPE).
- 4. Ensure access to secure work, as women are more vulnerable to layoffs and loss of earnings without any form of income protection.

- 5. Consider facilitating the transition of workers from the informal to the formal economy in line with ILO Recommendation 204, potentially facilitating access to income protections, healthcare benefits and leave.
- 6. Put care before profit.
- 7. End violence and harassment against women, particularly in the context of increased violence against women during the pandemic.
- 8. Ensure that new technology benefits rather than negatively impacts women workers.
- 9. Obtain gender-disaggregated data to ensure that policies, strategies and measures are evidence-based and meet the needs of women transport workers.
- 10. Provide gender-responsive economic stimulus packages.

A more sustainable and inclusive transport future

The pandemic offers an opportunity to shift to transport that is more inclusive and improve gender equality for both users and workers. Without changes in existing transport measures and without addressing the priorities of both women and men, the sector will not be able to recover nor will it achieve a more sustainable, resilient and inclusive future. Hence, Covid-19 policy responses must include women's priorities and reduce the risk to women transport users, including on public transport, ride sharing and taxi use. This means improving the safety and security of transport through infrastructure and operational improvements, public awareness campaigns, well-trained transport employees, and better reporting systems, combined with a zero-tolerance approach to harassment.

Covid-19 has redefined public transport in many parts of the world and as new resources are available to support public transport, it is critical to also reassess services that will meet the travel patterns of both women and men. Different transport services may also emerge from the pandemic through the adaptation of existing public transport services or the launching of new services that meet the changes in transport demand.

Covid-19 recovery guidelines need to include a gender equality aspect both for women as transport users and as workers. This is especially important due to the correlation between gender equality and economic recovery, as women represent an untapped pool of labour. More data are required to better understand the full and differential impacts of Covid-19 and how they affect transport behaviour by gender in order to design more equitable policies and efficient mobility. Understanding travel patterns and behaviour trends by gender can help in designing and implementing more equitable policies and efficient mobility.

Similarly, addressing the structural barriers to women's employment in the transport sector will improve the sector's ability to hire and retain women, and to support economic recovery. Awareness campaigns can help attract more women to the sector in the short term, but education and training are of critical importance to overcome the challenges faced by women in the transport workforce.³³ Governments should continue to invest in these areas, ensuring that job requirements and training become more flexible and digital to allow workers to spend less time away from home or in remote areas, thereby increasing their attractiveness for women. More women being involved in relevant decision-making processes will also improve and ensure gender equality, especially during crises.

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Urban mobility and Covid-19: Challenges and solutions

Webinar, 2 June 2020

Agenda

Opening remarks:

- ITF Secretary-General Young Tae Kim
- UITP Secretary-General Mohamed Mezghani

Expert keynotes:

Philippe Crist, ITF

Country presentations:

- 🖲 Belgium
- 🤏 Spain
- 🖲 Sweden
- European Commission

(Presentation slides by Mezghani and Crist can be found below.)

Summary

The Covid-19 pandemic has impacted many facets of our everyday life and, notably, how we move in our cities and communities. During the pandemic, public transport has carried out its essential mission at great human cost. As confinement periods ease, physical spacing imperatives have drastically reduced available public transport capacity. At the same time, fear of contagion has led many to avoid returning to public transport. Both of these have compromised the financial viability of public transport operators and systems.

The Webinar shed light on the following questions:

- How can public transport continue to deliver essential services during and after the shock of the pandemic?
- What can authorities do to absorb displaced trips from public transport without leading to unsustainable increases in traffic congestion?
- What lessons are there to draw from this crisis on how to make urban mobility more resilient to large-scale shocks?

Over 50 participants from 26 ITF member countries, the European Commission, UNECE, and UITP discussed the challenges in their cities as well as pointed to the solutions for rebooting urban mobility in a safe, sustainable, and inclusive way.

Challenges:

Financial: Physical distancing creates critical financial challenges for public sector operators due to reduced revenues, higher overhead and disinfection costs. If physical distancing requirements as well as other restrictions remain in place, these challenges will continue into the 'reboot' phase. In the reboot phase, public transport operators will have to manage distancing and disinfecting with increased demand, increased capacity, all the while reassuring staff and users.

- Trust: Government calls to avoid public transport to the extent possible made many commuters switch from public transport to other modes, including private car use. Public transport operators thus face the challenge of reassuring public transport users that it is safe to convince them to revert back to public transport as lockdowns are eased.
- Safety: During lockdown, car trips substantially dropped, which led to more speeding, and the decrease in road accidents was not proportionate to that in the number of car trips. As more cars come back on the road and economic activity resumes, ensuring the safety of pedestrians, bicycle and scooter users will be challenging. Many sidewalks are not large enough to allow safe physical distancing, and the safety of cyclists and scooter users may be put at risk.
- Path dependency: The Covid-19 crisis resulted in many cities fast-tracking their long-term plans with respect to deployment of additional bicycle lanes and encouraging micromobility. Locking in these new developments, such as making temporary bicycle lanes permanent or limiting the use of cars in cities, will be crucial as most of the world comes out of lockdown. The extent to which this will be possible will depend on government commitment to such policies.

Solutions:

- Provide financial support: National funding and support programmes are and will remain crucial for the financial sustainability of public transport. Collaboration and coordination between local and regional governments as well as between urban mobility stakeholders should be intensified. Sharing best practices between countries should continue, in particular through platforms like the ITF.
- Minimise risks while promoting public transport: Governments and transport operators can adjust supply, manage demand, and mitigate risks by sanitising, minimising interactions, and clearly communicating rules to follow for passengers. These steps can facilitate quicker recovery, as in the case of Japan where distances among passengers have been reduced thanks to strict following of rules on the use of facemasks on public transport. Improving the image of public transport's safety by underlining its vital role during the crisis, or at least not encouraging people not to take public transport, is also important. Where appropriate, introduction of congestion charging schemes and better management of parking spaces in cities should also be encouraged.
- Continue respacing cities for resilience: Streets have and should continue to be respaced to absorb displaced trips through the deployment of emergency bicycle and pedestrian infrastructure. Some of the emergency infrastructure put in place during the crisis can be made permanent. The use of 'invisible' infrastructure, such as reducing speed limits, implementing new road use rules favouring bicycles and scooters, or longer green phases for pedestrians at traffic lights, can effectively complement this approach.
- Promote intermodality to help limit car use: More possibilities in terms of transport modes should be offered to passengers. Mobility-as-a-Service platforms provide new opportunities to offer better mobility solutions for everyone while decreasing congestion.

Presentation by Mohamed Mezghani, Secretary-General, UITP












El ejemplo de Japón y sus 'clúster': No ha sido el metro, han sido los bares (y el karaoke) We fully expect that it will be difficult to maintain physical distancing in public transport, trains or buses ... So we will focus on other safe management measures for public transport, and that will include wearing of masks and requiring commuters not to speak to none another, or to speak on the phone, so that they avoid spreading droplets while they are in an enclosed space'

Via Agnes GRISOGLIO



Commuters must wear masks on buses, trains straitstimes.com • 3 min read

















Presentation by Philippe Crist, Advisor for Innovation and Foresight, ITF









Covid-19 reveals problematic space allocation





Tactical urbanism deployment of emergency bicycle and pedestrian infrastructure



Tactical urbanism deployment of emergency bicycle and pedestrian infrastructure



































include the rapid deployment of emergency cycling infrastructure. The city of Paris will deploy another 150km of pop-up cycle lanes.



behaviour and meet sustainability goals, Milan's « Strade Aperte » mobility plan calls for new cycle track infrastructure, new slow speed zones, and pedestrianised plazas, starting, deployed first as emergency infrastructure.



deployed in 5 years will be deployed in 3 months. It will first be implemented as emergency cycling lanes and will be extended and converted to hard facilities in later phases. of streets prioritised for walking and cycling.



List of participants

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Young Tae Kim Philippe Crist Jagoda Egeland Jari Kauppila Maya Camacho Juliette Lassman

Transport data and the Covid-19 crisis

Webinar, 4 June 2020

Agenda

Opening remarks:

- ITF Secretary-General Young Tae Kim
- Patricia Hu, Director US Bureau of Transportation Statistics

Country presentations:

- 🖲 Canada
- 🖲 Denmark
- Estonia
- 🆲 India
- 🖲 Slovenia
- Switzerland

Summary

The lockdown of countries generated an unprecedented decline in transport activities and consequently an urgent need for transport data to set the required policy measures to face the Covid-19 crisis. At the same time, most established data collection networks became unavailable and could not provide the required information. Governments had to find new ways to gather the necessary transport data to fulfil their needs.

The aim of the meeting was to share current challenges countries are facing to fulfil decision makers' needs for transport statistics and exchange on new, innovative solutions. Participants were asked to share information on newly developed indicators, their collection methods, lessons learned during this crisis and also identify what measures could be sustained post-pandemic.

Over 70 participants representing 27 ITF member countries, European Road Federation, European Union, International Road Federation, OECD, International Rail Union and UNECE joint the meeting to discuss common challenges and solutions.

- Urgency of data: Meeting highlighted the importance of good transport data for decisionmaking, all the more during the Covid-19 crisis, where the need for data evidence becomes critical to monitor the situation and design policy answers. In response to crisis, there is a need to provide more data and at a much faster pace than before. Country presentations showed that the lockdown response to the covid-19 pandemic created a series of challenges that needed to be solved urgently.
- Flash indicators: All presentations showed creative solutions with multi-faceted responses that help monitor the crisis, either from demand or supply side. Restrictions put in place also resulted in difficulties to carry out surveys and use of other traditional data collection methods. New methods have been developed by several statistical offices and resulted in the production of flash indicators, and use of non-traditional, open source data (automatic traffic counts, customs data, tolls...).

- Private data: Countries have also looked for private sources to produce complementary indicators needed to monitor the Covid-19 impacts on the transport activity. In some cases, public-private partnerships have been created to analyse and use critical data (such as mobile phone data). Developing partnerships to access private data was highlighted as a promising way forward, but some concerns were also made, especially in relation to representativeness, comparability and sustainability of private data sources for statistical purposes.
- Relevance and credibility: In all cases, while there is much value in new data and indicators, balance needs to be drawn between relevance and credibility. Key issues/concerns related to "Experimental statistics" vs "traditional statistics" were:
 - Maintaining the stability of open-source / private data also during a crisis to avoid disruptions.
 - o Quality and representativeness of new data sources.
 - To what extent new approaches can replace old methods or are new indicators complementary to traditional statistics.
 - Comparability of new indicators across the countries as inevitably these have been developed using different methods in different countries.
 - Financial sustainability of maintaining both traditional and new indicators.
- Prospective analysis: Covid-19 crisis was seen as a catalyst to develop a more perspective approach on transport statistics. During the pandemic, public transport use dropped severely, new cycle lanes were designed and there was a boom of micromobility. Statistics and modelling could move together to better understand future mobility patterns, for example those linked to "distancing" rules affecting public transport or air travel. Prospective analysis of the new mobility patterns would be a useful input for policymaking.
- Institutional challenges: Several statistical offices were not prepared to disruptive challenges and constraint environments such as those posed by the Covid-19 crisis. New approaches are needed for statistics to be able to answer quickly to new data needs using alternative approaches. In order to respond future challenges, institutional agility and adaptation to rapid changes is crucial. A new paradigm is emerging, which could be formulated as "Let's get data out now. Let's refine them later on" while not risking the quality of data.
- Next steps: There was a call from the participants to continue this type of dialogue in order to benefit from experiences around the world, exchange views and to provide a better and coordinated response to current or future crisis. It was suggested that the ITF:
 - Continues providing a platform for the member countries to exchange on these critical issues through the ITF's annual statistical meeting.
 - Develop common approaches to some of the challenges through a series of more targeted on-line meetings related to Covid-19 crisis and data.
 - Provide a platform to discuss and develop joint approaches and methodologies in relation to new flash indicators in order to ensure comparability across the countries.

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Supply chain management and freight logistics

Webinar, 23 June 2020

Agenda

Opening remarks:

ITF Secretary-General Young Tae Kim

Expert keynotes:

- Lauri Ojala, Professor of Logistics at University of Turku, Finland
- Alan McKinnon, Professor of Logistics at Kühne Logistics University, Hamburg, Germany

Country presentations:

- 🥚 Argentina
- Canada
- Chile
- Ireland
- United Kingdom

(Presentation slides by Ojala and McKinnon can be found below.)

Summary

The impacts of the Covid-19 crisis on the freight sector and supply chains have been stark. The Covid-19-induced recession has dampened demand for freight, while, at the same time, freight forwarders have faced disruptions to their supply chains as many countries have put restrictions on the transport sector to limit to the extent possible the spread of the virus.

The crisis has highlighted the importance of resilient supply chains to deliver essential goods and services to the public and businesses. At the same time, it raised many important questions for policy makers:

- What have been the impacts of the pandemic on supply chains and freight logistics?
- Were supply chains adequately prepared to deal with the Covid-19 crisis?
- What lessons are there to be learnt from the crisis on how to make supply chains more resilient to large-scale shocks?
- What are the possible impacts of the Covid-19 crisis for the future of supply chains?
- Is the crisis an opportunity to move towards greener, more sustainable supply chains? How can governments help get there?

A discussion among the invited speakers and over 60 participants from 25 ITF member countries, the European Commission, UNCTAD, and UN ESCAP shed light on these questions.

ITF governments have responded rapidly to the pandemic, by prioritising safety and well-being of drivers, crews, and passengers. To ensure the supply chains have been affected to the least extent possible, the necessary certificates and licences were automatically extended or digitalised to reduce human contact. To ensure uninterrupted cross-border flow of freight, many border crossings remained open for freight forwarders ("green lanes"), with transport workers in some cases exempt from entry prohibitions and quarantine requirements. These efforts helped deliver uninterrupted flow of goods across borders.

As recovery is starting, governments are stepping in to mitigate the financial strain on the freight sector by providing financial support and stimulus packages. Moreover, countries are implementing new information systems and data initiatives and advancing their efforts to achieve paperless logistics. Many administrations have also put plans in place to advance key infrastructure projects to prevent congestion and delays after the crisis is over.

The crisis has had some positive impacts on freight logistics as well. Lower transport activity has resulted in decreased carbon emissions and other environmental impacts, such as noise and air pollution. Moreover, to address the challenges brought by the crisis the sector has strengthened information systems and data initiatives as well as stakeholder cooperation, also with other sectors. Whether such improved outcomes can persist after the crisis will largely depend on government policy.

The crisis highlighted the importance of achieving the long-term goal of an economically, socially, and environmentally sustainable freight sector. To get there, efforts should be put on improving the post-Covid resilience of supply chains with focus on driving environmental co-benefits:

- Government support to the sector should be conditional on reaching long terms climate-change and environmental objectives.
- Government should help facilitate more stakeholder collaboration and data/information sharing to help optimise capacity utilisation and improve cost-effectiveness of the freight sector.
- The existing environmental regulations and fuel-economy standards for vans & trucks should be maintained.
- Finally, one should not lose sight of long-term objective of achieving economically, socially and environmentally sustainable freight.

Further policy insights on best practice in achieving supply chain resilience are available in an ITF Report on <u>Balancing Efficiency and Resilience in Multimodal Supply Chains</u>.

Presentation by Lauri Ojala, Professor of Logistics at University of Turku, Finland

























Transport sub-sectors		COVID-19 impacts by mid-June 2020			
Mode	Service	Mobility	Financial	Freight forwarding demand	Environmenta
Road freight	Domestic road freight	Negative to	Negative to	Negative to Mixed	
	Int'l road freight	Mixed	neutral		
Rail freight	Domestic	Negative to neutral		Negative to Mixed	Generally positive
	International				
Air freight	Belly cargo	Mainly Negative; also Neutral		Very negative	
	Cargo only	to Positive routes		Positive	
Maritime freight	Bulk shipping]
	Shortsea liner	(Very) Negative N		Negative to Mixed	
	Deepsea liner				





Presentation by Alan McKinnon, Professor of Logistics at Kühne Logistics University, Hamburg, Germany












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Covid-19 and aviation

Webinar, 30 September 2020

Agenda

Opening remarks:

ITF Secretary-General Young Tae Kim

Expert keynotes:

- Brian Pearce, Chief Economist IATA
- Mike Tretheway, Chief Economist InterVISTAS Consulting
- Michael Stanton-Geddes, Head of Economics & Competition ACI-Europe

Country presentations:

- 👂 New Zealand
- United Kingdom

(Presentation slides by Pearce, Tretheway and Stanton-Geddes can be found below.)

Summary

The Covid-19 crisis has highlighted the importance of aviation connectivity for our societies. Not only does aviation facilitate the movement of people and goods, but it also plays a strategic role in enhancing national productivity, achieving regional rebalancing, and connecting remote regions to essential goods and services, such as healthcare or education.

The Webinar brought together over 60 participants from 21 ITF member countries as well as representatives from the Airports Council International (ACI) Europe, International Air Transport Association (IATA), and InterVISTAS Consulting. The participants discussed the effects of the crisis on the aviation industry and, as a result, on connectivity provided by the sector. The participants exchanged views on how governments can tackle the connectivity crisis, with particular focus on remote/peripheral communities as their connectivity has been particularly heavily affected by the pandemic.

The Covid-19 pandemic has triggered a severe and unprecedented crisis in the aviation sector.

In April 2020, international air travel almost stopped and air cargo shipments were only at 20% of what they were the year before. As lockdowns and travel bans have eased over the past few months, the situation of domestic aviation markets has improved, but experiences across the ITF vary widely – from complete recovery of domestic air markets (e.g. Russian Federation) to almost all flights being grounded (e.g. Australia). As for international air travel, the numbers are still very low – the latest data available shows that in August international air travel was still 90% down on its 2019 level and little has changed since then.

These low numbers have been driven by persistent low consumer confidence as well as regulatory obstacles to travel – though many travel bans have been removed, numerous countries have at the same time implemented quarantine or testing requirements that discourage potential travellers from taking international flights. IATA expects that by the end of this year, global travel demand will be at about a third of what it was the year before and that the global air traffic will return to 2019 levels only by 2024.

Governments now face two major challenges: a financial challenge to support the aviation sector and a connectivity challenge, which is particularly acute for remote regions.

The Covid-19 crisis has put an incredible financial strain on the aviation sector. Almost all parts of the aviation value chain, including airlines and airports, face the challenge of high fixed costs and very low demand levels. Many airlines have not been able to achieve breakeven load factors. At the same time, the world is now facing an air connectivity challenge, which is particularly acute in remote and isolated regions, many of which have found themselves nearly cut off from the rest of the world. Data collected by ACI Europe shows that smaller regional airports¹ have on average experienced higher drop of traffic than other airports.

Many governments have stepped in to support the industry by providing subsidies, loans, equity and cash injections as well as wage subsidies, reductions and deferral of taxes and fuel charges. According to IATA, governments have to date provided about USD 160 billion in aid to airlines alone. More specifically, governments that want to safeguard regional connectivity have several different policy options on their disposal, including:

- Provision of financial support for infrastructure, aircraft or airport operations;
- Cross-subsidisation of routes by having one entity operate an entire route network;
- Subsidisation of specific air services or specific passenger or air cargo categories;
- Equity investment by national or local government; or
- Regulation of air services.

To help the industry survive the crisis and recover in the aftermath, governments need to take a holistic approach to supporting aviation connectivity.

The crisis highlighted the importance of achieving the long-term goal of an economically, socially, and environmentally sustainable aviation sector. To get there, governments need to support the industry while ensuring that the support they provide is conditional on maximising consumer benefits, achieving long-term climate change objectives, and minimising the possible market distortions.² During the pandemic, governments should help reboot international air travel by working together on a joint testing protocol, if possible in place of quarantine requirements, in line with <u>an approach proposed jointly by ACI and IATA</u>.

¹ i.e. airports that serve fewer than 5 million passengers per annum.

² Further policy insights on how to support to the sector while ensuring climate targets are met can be found in the following ITF Covid-19 Transport Brief: <u>Restoring air connectivity under policies to mitigate climate change</u>.

The discussion revealed that it would be useful for the ITF to continue a discussion among aviation experts and stakeholders on the possible impacts of the Covid-19 crisis on the structure of the global aviation market and the resulting effects on connectivity and competition. The discussion could focus on a selection of the following topics:

- Government support to the industry has been uneven across countries: How may this distort the level playing field among carriers and with what consequences to aviation markets?
- The aviation sector is facing a very challenging path to recovery and will rely on life support from national governments for the months to come: Will we see more airline insolvencies and hence market consolidation? Will governments assume higher equity stakes in airlines and hence gain more control of the sector? What may be the connectivity impacts of such developments?
- When raising capital, airlines are constrained by ownership and control rules: What could be the impact of relaxing the rules of ownership and control on the aviation markets and the connectivity provided by carriers?
- The crisis has made many businesses reliant on teleworking and online meetings. At the same time, environmental sustainability has risen on the agenda as many individuals have experienced less noise and air pollution, in connection with fewer flights: Are these trends expected to continue? What may be their impacts on airline and airport business models? What will the industry need to do to adapt to the new normal?

Presentation by Brian Pearce, Chief Economist, IATA













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Presentation by Mike Tretheway, Chief Economist, InterVISTAS Consulting

Presentation to ITF/OECD Webinar on CoVID19 & Aviation: What can governments do to ensure Continuity of Connectivity of Remote/Peripheral Locations?

Dr. Mike Tretheway, Chief Economist - InterVISTAS Consulting with Jody Kositsky, Senior Director Economic & Policy Analysis

30 September 2020

InterVISTAS a company of Royal HaskoningDHV

Why Aviation Matters

Aviation is a strategic infrastructure industry

which beyond its own direct and indirect economic impact profoundly affects other economic sectors in terms of productivity and competitiveness

and profoundly affects regional, national and global social connectivity

*Aviation has wider economic benefits

· E.g., tourism

* Aviation has catalytic effects

 Like ICT, It has been observed increase overall labour productivity 2







Economic Challenges for Remote Air Access

*High costs

- There are substantial economies of scale/density in air services
- Remote community traffic insufficient to cover total costs
 and might not even cover marginal (incremental) costs
- Remote communities more expensive to serve
 - Everything more expensive: fuel costs, labour costs, training costs, supply costs, training costs, limited maintenance available (parts & labour), ...
- Also note that air service depends critically on continuity of human resources that require years of training and experience

*Limited competition

Resulting high fares

• Which suppress demand and exacerbates high unit costs

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Policy Options for Remote Air Access

*Infrastructure support

- Canada has chosen this option for remote communities
- Support for infrastructure capital
- Some support for airport operations
 - And ANSP, or common pricing for ANSP services
- Expectation is that routes will then be self supporting

*Some nations operate airport networks (E.g., Malaysia)

- Remote airports cross subsidized by the system
- Some criticize the economics of cross subsidy, but the service consumed is a seat on a route, which requires two end points.
- Thailand recently adding small airports to AOT network

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Other fiscal support

- Carrier start up support
- Taxation reduction
 - Carrier/airport/ANSP income taxes, excise taxes
 - Passenger tax
 - Tax free bond financing (airports in US)
 - Reduced tax on dividends/capital gains
- Reduced interest loans, Loan guarantees
 - government absorbs some debt risk

*Equity investment

*Federal/regional/local

*Encourage community investment in air carriers serving remote regions

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Policy Options for Remote Air Access

Regulate Air Services to reduce costs and sustainable fares

- Limit # carriers, # flights, seat capacity
- By restricting supply, carrier profitability might be achieved
- But at significant cost to travellers, their health, social connectivity, ...
- Required air service obligations to remote communities financed by cross subsidy from other routes
- Need to limit competition on other routes for this to work

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CoVID-19 Impact Policy Options

For Ensuring Continuity of Connectivity of Remote/Peripheral Locations

COVID-19 – This Crisis is Different

This crisis has had unput	precedented impact	
 Policy response to c and/or make flying 	lose borders (&other modes) extreme	ely unattractive
 Required quarantii 	ne if border (internal/extern	al) closed
 Fear of spread of v 	irus in flight	
 Distinguish transm vs transmission by 	ission during flight, flying a carrier into a region with	post flight spreading
Immediate, lasting order of magnitude (power of 10) drop in airline/airport/ANSP revenue		
We have had past C but typically of shor	oM revenue drops (e.g., t duration	SARS, 9/11),
Clearly CV19 revenue drop will be for a considerable period of time		
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The CoVID-19 Remote Service Challenge

More than in populated regions, continuation of regional connectivity is essential

- 'temporary' service suspension with later restart is not acceptable
- Burdening remote carriers & airports with substantial debt is an unattractive option.
 - · Even in the 'old normal' times, these airports were not self sustaining
- Entry and fare regulation to reduce costs and raise fares undesirable
 - · Does not provide any immediate relief & service continuity
 - · Undermines all the goals for remote air connectivity

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The CoVID-19 Remote Service Challenge

*Financial Restructuring?

- With reduced revenues, the present value of assets is reduced
- One option is single carrier/airport balance sheet restructuring
 - Renegotiate leases and/or debt
 - Or bankruptcy (restructuring type ch 11) to reduce leases & debt
 - · And/or inject new equity

Industry restructuring?

- In some markets mergers
 - The time is right to reconsider foreign ownership limits
 - And to reconsider strict application of SCP competition law which merely counts # carriers, rather than scope/type of competition
- But these unlikely to be an immediate solution for services to many remote regions

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Need for Regional Aviation Financial Support

Airports, Airlines, ANSP

Continuity of Connectivity is Everyone's Responsibility

+ Support is required & justified from all levels of government & community

- Reason for multilevel support:
 - All levels receive economic, social, medevac, emergency response benefits from aviation connectivity

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THANK YOU

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Presentation by Michael Stanton-Geddes, Head of Economics & Competition, ACI-Europe



The most vulnerable connectivity is at regional & peripheral communities.

- Smallest airports are experiencing the greatest loss in traffic
- Hubs & major airports also losing relatively more traffic than 'middle market airports'
- However greater hopes for recovery at hubs









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Reducing the impact of Covid-19 on gender equality in transport

Webinar, 2 December 2020

Agenda

Opening remarks:

ITF Secretary-General Young Tae Kim

Expert keynotes:

- 🏽 Wei-Shiuen Ng, Advisor on Sustainable Transport and Global Outreach, ITF
- Alejandra Cruz Ross, Transport Specialist, ILO

Country presentations:

- 🤏 Canada
- 🍍 Spain

(Presentation slides by Ng and Ross can be found below.)

Summary

As has been the case with past crises, the impact of Covid-19 has not been gender-neutral. The crisis resulting from the pandemic has had a disproportionate impact on women and highlighted the continued existence of gender inequality. Covid-19 has had a significant impact on women as both transport users and transport workers. Recovery efforts should focus on collecting more gender-disaggregated data, mitigating the negative effect of the pandemic on women's transport accessibility and ridership of public transport, as well as making the transport sector more appealing to the female workforce.

The Webinar brought together 50 participants from ten ITF member countries as well as representatives from the European Commission and the International Labour Organization (ILO). It focused on the links between the Covid-19 pandemic, gender equality and transport, looking at women as both transport users and transport workers. Participants discussed the impact of Covid-19 on women in transport, pre-existing structural issues, and policy options to focus recovery efforts towards gender equality in transport.

Already before the pandemic, there has been a lack of data and knowledge on gender issues in transport. Significant differences between men and women's transport patterns have existed and women working in transport have faced significant challenges.

Despite the lack of gender-disaggregated transport data and the limited knowledge around gender issues in transport, <u>ITF's analysis</u> showed that women travel differently to men. Women tend to travel shorter distances, chain more trips throughout the day, make more non-work-related trips, travel more at off-peak hours, choose transport modes that are more flexible, make less car and two-wheeler trips, and tend to use more public transport and non-motorised ways to travel.

Before the pandemic, women's participation in the global transport workforce stood at around 20%. Women have faced structural barriers to entering the transport workforce including gender stereotyping, discrimination, working conditions and security concerns, and a lack of awareness of the potential benefits of a career in transport. In the workforce, challenges linked to these barriers remained. Furthermore, the male dominant nature of the transport sector, deficiencies in provisions for women's health and safety (including access to decent sanitary facilities), and high levels of violence and harassment against women have deterred many women from joining and staying in the transport workforce.

The Covid-19 crisis has compounded these issues, with significant implications for women as transport users, and could reverse the previously gained gender equality advancements.

Women have been experiencing greater economic and social impacts of the pandemic. The pandemic has shone light on the overrepresentation of women in essential work, as well as in the hardest-hit sectors and informal work: women account for 70% of the world's health and social care workforce and are overrepresented in hard-hit industries such as food service, retail, and entertainment. Globally, 58% of employed women work in informal employment, a sector where workers lost an average 60% of their income at the beginning of the pandemic.

There is also some evidence that women have been more affected by the pandemic as transport users. Available studies from the Netherlands show that women have fewer alternatives to travel and need to put in more effort to get to their destination. A study using data from Italy, Portugal and Spain also showed that women's mobility fell by 28% three weeks after the introduction of lockdowns, while that of men declined by about 21%. The constraints on mobility have had significant impact on access to critical services and prevented individuals from direct involvement in prevention and treatment of Covid-19.

The pandemic has reinforced existing challenges for women in the transport workforce and could have significant implications for gender equality in transport.

The pandemic has had a severe impact on all workers, but there have been specific, additional adverse effects on women. Since women predominantly work in customer-facing jobs, they face higher infection risks than male transport workers.

Because women also make up the majority of informal workers and workers in non-standard forms of employment, many of whom lacked adequate labour and social protection before the pandemic, they tend to suffer disproportionately from the adverse impacts of the crisis. For example, in Canada more women than men have left the transport workforce due to the pandemic. Groups including people with disabilities, indigenous and tribal peoples, people living with HIV, and migrant workers also tend to be overrepresented in the informal economy. The overlap and intersection of these categories, as well as with gender, socio-economic status, age, and other factors, result in multiple layers of discrimination in the workplace and in society.

Governments and transport workers are taking action to mitigate the impact of Covid-19 on gender equality in the ongoing recovery from the Covid-19 crisis.

Various mitigation measures have been implemented to promote gender equality during the Covid-19 crisis. Measures include changes in transport services, such as the provision of priority or free access to public transport for health and essential workers, free access to transport for pregnant women, and travel restrictions on some streets to allow safer travel for cyclists and pedestrians.

Covid-19 has presented an opportunity to shift to transport that is more inclusive and improve gender equality in the transport sector. Throughout the pandemic, public transport must ensure the health and safety of its users and workers, which include physical distancing and sanitisation measures, and also reinforced protocols to avoid violence against women.

Covid-19 policy responses should seek to consider women's priorities, such as reducing the risk of women transport users in public transport, ride sharing, and taxis. Covid-19 recovery guidelines should also include gender equality both for women as transport users and workers for greater resilience and sustainability. This is especially important due to the correlation between gender equality and economic recovery.

More data are required to understand the full and differential impacts of Covid-19 and their implications on transport behaviour by gender to design equitable policies. National gender-based strategies, such as those implemented by Canada and Spain, will also help increase women's participation in the transport sector.

Addressing structural barriers to women's employment in the transport sector is needed to improve the sector's ability to hire women and support economic recovery. Awareness campaigns can help attract more women to the sector in the short term, but education and training are of key importance to overcome the challenges faced by women in the transport workforce. Governments should continue to invest in these areas, ensuring that job requirements and training become more flexible and digital to allow workers to spend less time away from home and in remote areas.

During the meeting, the ILO summarised key demands for women transport workers in the Covid-19 response and recovery into the following ten recommendations:

- 1. Ensure that women are on all decision-making bodies.
- 2. Provide adequate income and social protection, including paid leave.
- 3. Provide access to sanitation and appropriate PPE.
- 4. Ensure access to secure work, as women are more vulnerable to layoffs and loss of earnings without any form of income protection.
- 5. Consider facilitating the transition of workers from the informal to the formal economy in line with ILO Recommendation 204, potentially facilitating access to income protections, healthcare benefits and leave.
- 6. Care before profit.
- 7. End violence and harassment against women, particularly in the context of increase violence against women during the pandemic.
- 8. Ensure that new technology benefits rather than negatively impacts women workers.
- 9. Obtain gender-disaggregated data to ensure that policies, strategies and measures are evidence-based and meet the needs of women transport workers.
- 10. Provide gender-responsive economic stimulus packages.

Presentation by Wei-Shiuen Ng, Advisor on Sustainable Transport and Global Outreach, ITF







Transport Forum

Implications for transport?

- Despite its significance in influencing travel behaviour, especially mode choice, gender is often the least understood variable
- Women have different travel preferences and constraints
 - Travel shorter distances
 - > Trip chaining
 - Make more non-work related trips
 - Travel at off-peak hours
 - Choose more flexible modes
 - > Make less car and two-wheeler trips (lower vehicle ownership)
- Women also use public transport and non-motorised modes






Examples of Mitigation Measures (1)

Changes in Transport Services:

- Some public transport operators allow health professionals and essential workers priority or free access to public transport
- Private sector offered complementary services to public transport for healthcare and essential workers, e.g. demand-driven services, vehicle rentals at discounted price, free bicycles
- Night bus services were provided to reduce the strain on public transport systems
- Tailored transit services provided to frontline workers in partnership with public entities and hospitals

Transport Forum

Examples of Mitigation Measures (2) Other Changes:

- Pregnant women are given free access to transport to guarantee their access to lifesaving maternal health services during Covid-19
- Digital access, such as mobile-phone based health services, is provided to avoid women having to walk long distances or having to take public transport to reach health care facilities
- Increase in temporary bike lanes, free repair stations
- Traffic restriction on some streets to allow safer travel for cyclists and pedestrians



The transport provided by the Ministry of Public Health with UNFPA's support is expected to serve around 5,000 women during the lockdown. Source: UNFPA Madagascar/Hantanirina Andremanisa



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Rethinking Public Transport Health and Safety of Public Transport Users:

- Spaced seating
- Open windows
- Frequent cleaning and sanitisation
- Mandatory masks wearing
- Crowd monitoring
- Thermal screening
- · Supervised boarding and deboarding
- Signage and other visual cues
- · Protocols to avoid violence against women



Source: AP Photo/Ebrahim Noroozi



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Some Insights

- Understanding travel patterns and behaviour trends by gender can help in designing and implementing more equitable policies and efficient mobility
- An opportunity to shift to more inclusive transport and improve gender equality in the sector
- Without changes in existing transport measures and without addressing the priorities of women and men, the sector will be unable to recover better towards a more sustainable and resilient future
- More women involved in relevant decision-making processes will improve and ensure gender equality, especially during crisis situations





Presentation by Alejandra Cruz Ross, Transport Specialist, ILO















2. Higher-risk sectors for enterprises and women's employment

Women transport workers are the drivers, conductors, ticket sellers, cabin crew, pilots, dockworkers and seafarers providing critical services.

But they are also the less visible workers keeping transport systems running, through vital work such as maintenance, security, cleaning, and administration services, some of which are often subcontracted.



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2. COVID-19: women informal workers under even greater threat



Source: Bulawayo

Protecting workers and ensuring their rights has become challenging, particularly for workers in the informal economy, many of whom are women, who already lacked adequate labour and social protection before the COVID crisis.

For those countries with high levels of informality within the transport sector, women find themselves at the sharp end of the pandemic and they are driven to make very difficult decisions

2. COVID-19 exacerbates poor working conditions of women working in vital and key services

There is emerging evidence that the COVID-19 pandemic is threatening to reverse gender equality gains and thus to add to existing inequalities.

Since women predominantly work in customer-facing jobs, they face an even higher risk of infection than male transport workers – but also higher risks from having to face aggressive passengers, customers and the wider public.



ource: Diana Aros, BiobioChile

ilo.org

3. COVID-19 exacerbates the challenges women habitually face

The pandemic has exacerbated the following challenges that were already prevalent in the transport sector before the pandemic, and these include:

- A dominant culture of masculinity and gender stereotypes
- Discrimination and unequal treatment at work
- · Lack of work-life balance, and 'the care trap'
- Deficiencies in provision for women's health and safety at work, including access to decent sanitary facilities
- High levels of violence and harassment against women at the workplace

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4. The COVID-19 response: Getting gender equality right



ILO Recommendation 205, demands a gender perspective in all crisis response, gender-inclusive social dialogue, and gender equality and the empowerment of women and girls for enabling recovery.

The COVID-19 pandemic provides an opportunity to employ a gender lens in innovation across the transport sectors. Women are disproportionately harmed with inadequate policy designs placing them at increased health and occupational risks.

Source: The Star, Kenya

▶ ilo.org

4. The COVID-19 response: Getting gender equality right

- Workers' key demands for women transport workers in the Covid-19 response and recovery include:
- 1. Women on all decision-making bodies
- 2. Income and social protection this can include:
- 3. Access to sanitation and appropriate PPE
- 4. Secure work
- 5. Transition of workers from the informal to the formal economy

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INTERNATIONAL

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On the path to recovery: What role for transport infrastructure investment?

Webinar, 27 January 2021

Agenda

Opening remarks:

ITF Secretary-General Young Tae Kim

Keynote speech:

Minister Rachel Maclean, UK Department of Transport

Expert keynotes:

- 🧶 Dejan Makovšek, Infrastructure Investment and Procurement Lead, ITF
- 🥚 Tom Worsley, ITS Leeds

Country presentations:

- 🖲 Sweden
- European Commission
- France

(Presentation slides by Makovšek and Worsley can be found below.)

Summary

In the first phase of the Covid-19 pandemic, the main challenge was how to keep the essential services running. Now, with vaccines becoming available and extending the tools we have to manage the health threat, the focus has shifted towards measures that can help speed up economic recovery. Among the interventions governments can use to stimulate the economy, transport infrastructure investment has been a tried and tested approach. However, while it is clear that investment is important, not all projects will deliver stimulus in practice within the required timeframe.

The webinar discussed the types of projects that deliver rapid stimulus and the extent to which stimulus packages are also an opportunity to contribute to long-term national policy goals of inclusion, resilience, and decarbonisation. Speakers went on to discuss the criteria for prioritising projects that can contribute most to "building back better". The pitfalls to be avoided in the process of rapidly increasing spending on infrastructure were also examined.

In particular, the Webinar shed light on the following questions:

- What are key principles to consider in project selection for infrastructure stimulus?
- What trade-offs do governments face when trying to scale up investments?
- How should governments fund their infrastructure stimulus and what role should private investment play?

Over 50 participants from 17 ITF member countries, the observer country Brazil, the European Commission, and the International Labour Organisation attended the webinar and discussed challenges to infrastructure investment for economic recovery as well as solutions to the identified issues.

Challenges:

- Assumptions behind project appraisal need revising: The pandemic has affected key assumptions underpinning project appraisal frameworks. For example, many workers moved to 100% teleworking arrangements during the pandemic. Although some will eventually return to their offices, the ways in which office workers commute will nevertheless be affected over the long-term. This in turn will have profound impacts on demand for transport. Such changes to underlying assumptions dictate revision of assessments of the need for new infrastructure that were made before the crisis.
- Acceleration of the project planning and preparation pipeline creates risks: If governments accelerate projects at the expense of following an established process, they are more likely to suffer from delays, cost overruns, or may not fully deliver on the expected benefits. Rather than circumventing planning requirements, governments might find opportunities to accelerate projects by providing regional authorities with more funding for infrastructure investment. This solution, however, may affect the capacity of regional authorities to manage their project pipelines.
- The funding challenge: Ultimately, funds for additional infrastructure spending will have to be raised through additional taxation or increased user charges. Private investment for public infrastructure does not create additional funding and should only be employed where it can yield clear efficiency gains above the best publicly financed alternative.

Solutions:

- Maintain the integrity of the project preparation and appraisal process: Accelerating the project pipeline should focus on speeding up efforts to launch and deliver the already approved investments. Accelerating the project pipeline by failing to follow the established processes underpinning transport infrastructure planning and delivery should be avoided. The decision-making needs to be anchored in:
 - o rational, comparative, transparent, and evidence-based project appraisal,
 - o competitive and transparent procurement processes,
 - o long-term strategic infrastructure plans informed by agreed policy priorities,
 - independent expert advisory bodies and robust public consultation processes.

- Revise assumptions that underpin project appraisal: The Covid-19 crisis has changed the ways in which people live and work. Many of the new trends, such as teleworking or local holidaymaking, may continue after the crisis to a lesser or greater extent. Such changes will have a bearing on the kind of transport systems that we need in the future. For this reason, the policy-maker needs to review the existing demand and supply-side assumptions underpinning transport appraisal and project selection and revise some of the project assessments as appropriate.
- Provide economic stimulus by investing in infrastructure maintenance and renewal programmes: Maintenance and renewal programmes are often subject to delays and tend sometimes to be given lower priority than investments in new infrastructure. Where this has happened, the crisis provides an opportunity to advance maintenance and renewal projects. Such projects usually require far less preparation time than new investments, are less risky, while the economic stimulus they bring propagates through the economy relatively quickly. At the same time, infrastructure networks that have been maintained to a high standard with robust asset management regimes will offer little or no opportunity for accelerated maintenance spending.
- Small-scale projects can be important in delivering economic stimulus: Investments in less carbon-intensive transport modes, in particular by re-spacing cities to encourage walking and cycling, offer opportunities for local stimulus. This includes building on emergency infrastructure such as temporary cycle lanes that was deployed to promote social distancing. Such investments can help achieve the long-term goal of decarbonising the transport sector, while providing additional economic stimulus.

Presentation by Dejan Makovšek, Infrastructure Investment and Procurement Lead, ITF





Public Consumption

Tax Interventions

Source: GIH & CEPS 2020.

Transfers

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nvestment in infrastructure can boost growth			
Spending types	Cumulative Multiplier (within 2 to 5 years)		
Public Spending (all forms of spending)*	0.98		
Public Investment	1.53		

1.12

0.84

0.49

Lessons from past crisis and growth stims				
	Targeted	Timely	Temporary	
Objectives	-	-	-	
Efficiency	Resources should be allocated to spending with higher benefits (economic and social) compared to costs.			
Equity	The impact of investment projects on different groups and sectors should be consistent with established political priorities.			
Effectiveness	The stimulus should be fast and big enough			















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Financing the infrastructure stimulus (I)

- If a state can borrow, it should. If it can't, external aid will be necessary (foreign aid for developing countries, or IMF facilities)
- Privately financing options exist, but extremely costly:
 - Privately financed infrastructure does not enable the state to invest (borrow) more
 - The great majority of PPP applications to date was in circumstances, where they can't achieve Value for Money.
 - Setting up PPPs takes time is against the Timeliness objective





Presentation by Tom Worsley, ITS Leeds





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RIS Enhancement Programme

Required outcomes:

Improving safety for all A well maintained and resilient network Meeting the needs of all road users Providing fast and reliable journeys Delivering better environmental outcomes Efficient delivery/lower costs

Economic efficiency requirement:

UK Treasury requires that schemes deliver value for money:

 defined in terms of quantified benefits, including time and vehicle operating cost savings, accident reductions, environmental impacts exceeding the costs. This can be supplemented by some allowance for unquantifiable factors based on decision makers' judgement.

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The Complex Process of Option Generation, Selection and Delivery

- · identification of problems,
- · feasibility study, design and testing of options,
- · consultation to meet statutory and other requirements,
- · interdependencies with other planned transport schemes and with land use plans,
- refining of options
- specification of a programme,
- supply side (construction industry) awareness,
- · updating demand forecasts, full business case, detailed design,
- · legal processes, public inquiry, land purchase, compensation of property owners,
- · consultation and liaison with all affected agents.

C International Scope for accelerating a roads programme

- Process is complex, each step is necessary.
- Omitting stages risks legal challenge, public protest, delays through lack of coordination, cost overruns.
- And bringing schemes forward at planning stage will not result in work starting immediately – not a recession busting policy. Road construction is capital intensive.



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Maintenance and Renewals

- Highways England now has good knowledge of the state of its assets.
- M&R programme aimed at minimising the full life cost of M&R plus minimising delays to motorists
- Options for optimising maintenance programme working during day time, 24 hrs, night time – each with different costs, completion dates and benefits.
- Supply side considerations renewal isn't "man with a shovel"– capital intensive and needs planning – diversionary routes, implications on other works etc.
- Some scope bringing forward renewals works to target economic recovery-and also scope for gaining better info about state of assets.



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Low Traffic Neighbourhoods – a quick wins option

- New funding for Local Authorities to implement measures to reduce through neighbourhood traffic flows and to encourage cycling and walking in a COVID environment
- Measures are reversible, temporary, implemented without consultation, very low cost – paint, moveable barriers, replacement of on-street parking bays with cycle lane
- Mixed reception by public and quality of the schemes varies from good to bad.
- Favourable impact on quality of life, carbon and active travel but minimal direct effect of economic recovery





List of participants

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Covid-19 crisis measures in European road transport



ITF Group on Road Transport: Measures for road passenger and freight transport in Europe against the Covid-19 crisis

The core responsibility of the ITF Group on Road Transport is to manage the Multilateral Quota system. Management of the Multilateral Quota system involves overseeing the distribution of licenses by member countries and monitoring compliance with Quota rules.

In May 2015, Ministers approved the Quality Charter for Road Haulage under the ECMT Multilateral Quota System developed by the RTG. The Quality Charter establishes qualification standards for companies, managers and drivers and entered into force on 1 January 2016. The aim of the initiative is to promote the highest quality transport in all ECMT countries, including on a social level, as a main pillar of the Multilateral Quota system.

To meet the ministerial mandate in 2018, the ITF/ECMT countries established the platform on best practices in international road transport. The platform provides full information on the ECMT Multilateral Quota system as well as real-time status updates. The Quality Charter for Road Haulage Operations under the ECMT Multilateral Quota System and the state of its implementation in member countries is included. Information on national regulations, practices and data for information for competent authorities is provided for hauliers engaged in international road transport, other stakeholders and the wider public.

At the very beginning of the pandemic, the ITF Group on Road Transport expressed the need to have updated and trustworthy information about the different measures for road freight transport taken by countries in Europe. On 16 March 2020 the ITF and the Group launched a webpage collecting the measures introduced by each of the 43 European ITF/ECMT member countries relative to road transport, namely border-crossing requirements. It also contained relevant communications from the Observer organisations (i.e. European Commission and International Road Union). This information is still in constant update and comes directly from the member country government.

At a moment where each European country was adopting his own rules, this webpage allowed easy access in one place to all of what was happening across the continent. Providing support to drivers that had to navigate through this myriad of rules was the initial motivation for setting up the page. Policy makers also found it was very useful to monitor developments in other countries. Some features of this initiative are:

- Provide practical information useful to truck drivers, e.g. documents required to enter each country, quarantine rules and exceptions;
- Mostly Freight oriented;
- Frequent updates with information directly from the governments;
- Updates still ongoing.

Link: <u>www.itf-oecd.org/road-transport-group/covid-19-road-group</u>.



5COVID-19 Recovery Guidelines for ASEAN



Executive summary of COVID-19 Recovery Guidelines for Resilient and Sustainable International Road Freight Transport Connectivity in ASEAN

The COVID-19 Recovery Guidelines for Resilient and Sustainable International Road Freight Transport Connectivity in ASEAN ("Guidelines")¹ were developed by the ASEAN Transport Facilitation Working Group (TFWG) with joint assistance from the United Nations Economic and Social Commission for Asia and the Pacific (ESCAP) and the International Transport Forum (ITF), following the outcomes of the ESCAP-ASEAN-ITF joint webinar on "Preserving Transport Connectivity and Building Freight Transport Resilience in ASEAN" in July 2020.

The Guidelines are designed to support ASEAN member states in establishing their regional and national transport connectivity recovery plans with a focus on resilience and sustainability, as well as developing regional Covid-19 recovery guidelines on cross-border road freight transport. The Guidelines also contribute to the implementation of initiatives under the ASEAN Comprehensive Recovery Framework² adopted at the 37th ASEAN Summit. The Guidelines are non-legally binding documents and can be updated by ASEAN member states for consideration of TFWG, as and when necessary.

Cross-border transport connectivity is vulnerable to disruptions ranging from congestion and accidents to extreme weather conditions and global pandemics, such as the ongoing Covid-19 crisis. As countries start to develop their respective Covid-19 recovery pathways, it is also critical to consider the long-term impacts of recovery measures on the overall resilience and sustainability of relevant transport systems as a whole, and how well they can address future disruptive events. The Guidelines suggest that while the immediate response to Covid-19 disruptions was driven by pragmatic concerns due to social distancing related to managing cross-border freight operations in the light of the new constraints, as countries start contemplating recovery, ASEAN member states should focus on greater and better connectivity to strengthen cross-border connectivity, building on increased transport workers' safety, digitalisation, resilience and, overall, greater sustainability. The balance between containing the virus and maintaining transport services was also recognised as the top challenge in ASEAN member states and this ultimate objective will continue to guide recovery pathways for ASEAN.

Resilience is commonly defined as the ability of a system to prepare for, absorb, recover from, and adapt to disturbances or shocks to the system³. For transport systems, resilience often refers to the ability of the system to maintain its services or to restore itself to that level of service in a specified timeframe⁴. Greater resiliency in transport connectivity, including associated supply chain networks and cross-border freight transport, will also lead to higher levels of efficiency in the system, especially with the deployment of information and communication technology (ICT) and real-time data sharing across a supply chain in the long term⁵, as well as increases in competitiveness in the region.

On the other hand, the sustainability of transport connectivity refers to transport development that possesses a balance of economic growth, social equity and environmental protection. Efficiency is often positively correlated with sustainability. For example, efficiency improvements that reduce energy consumption will lead to lower emissions. The elements of sustainable transport development, i.e. its economic, social and environmental aspects, are especially relevant during and after the Covid-19 pandemic as they refer to the maintenance of the movement of freight transport and system performance for continuous economic benefits, health and safety of transport workers,

as well as the environmental impact of transport connectivity activities. These concerns have all been indicated as key priorities for various counties. Resilient transport connectivity infrastructure through appropriate design and planning will also ensure that it continues to operate under a range of meteorological conditions and weather phenomena as a result of climate change despite significant disruption⁶.

The development of the Guidelines supports the creation of a resilient and sustainable transport connectivity recovery pathway in ASEAN during and post Covid-19 by providing regional guiding principles to help the region "build back better". The Guidelines identify resilient and sustainable measures for transport connectivity on a system, infrastructure and modal level. In addition, associated institutional arrangements and regional cooperation are also included, as such factors have been identified to be crucial in providing coordinated, timely and effective responses to disruptions⁷.

The Guidelines seeks to foster the collection and sharing of knowledge, lessons learned and experience from the Covid-19 pandemic directly or indirectly related to transport connectivity and road freight transport resiliency. These include categorising specific policy and responses formulated by ASEAN member states, the private sector, intergovernmental and non-governmental organisations. The Guidelines also determine and provide guiding principles on the implementation of future policies and recommendations based on information collected, in order to build more resilient transport connectivity and freight transport. In addition, the Guidelines will assist in the formulation of a communication mechanism to ensure the exchange of relevant information and instructions in a timely manner, to keep all stakeholders well-informed for effective, efficient and enhanced cooperation in ASEAN, and provide insights to support the creation of an effective monitoring tool that can extract real-time information to gauge the impact of any policy intervention in relation to enhancing transport connectivity, increasing capacity and building resilience.

The scope of the Guidelines includes the need to maintain connectivity during the Covid-19 pandemic crisis, which was a major concern for all ASEAN member states. Inter-ministerial collaboration seemed to be the norm across ASEAN member states and such arrangements pre-existed prior to Covid-19. Capacity building was identified to be a significant issue for many countries and representatives from the private sector. ASEAN member states also highlighted the need and benefits of creating standardised procedures especially under disruptive circumstances, such as the Covid-19 pandemic crisis.

The Guidelines define the following three priority areas, derived from the findings of interviews with each and every ASEAN member state and representatives of the private sector.

- Priority 1: Ensure Transport Workers' Safety and Training
- Priority 2: Preserving Connectivity for Efficient and Resilient Supply Chains
- Priority 3: Building Back Better through Digital, Resilient and Decarbonised Transport Connectivity.

For each priority area, the Guidelines define its guiding principles and actions, and offer a timeline for the implementation, which can be immediate or current, medium term (6 months) or longer-term responses (12 months). The timing of implementation will also have significant implications on the effectiveness of a measure and the costs involved. Recommendations are also provided for the implementation of the Guidelines within the scope of stakeholder assessment and mapping, governance structure for implementation, stakeholder engagement, and capacity-building support.

Notes

- ¹ Full text of the Guidelines available on: <u>https://asean.org/storage/asean-covid-19-guidelines.pdf</u>.
- ² ASEAN Comprehensive Recovery Framework and its Implementation Plan are available on: <u>https://asean.org/storage/2020/11/2-FINAL-ACRF_adopted-37th-ASEAN-Summit_12112020.pdf</u> and <u>https://asean.org/storage/2020/11/3-FINAL-Implementation-Plan-ACRF_adopted-37th-ASEAN-Summit_121120.pdf</u>.
- ³ I. Linkov, T. Bridges, F. Creutzig, J. Decker, C. Fox-Lent, W. Kröger, J. H. Lambert, A. Levermann, B. Montreuil, J. Nathwani, R. Nyer, O. Renn, B. Scharte, A. Scheffler, M. Schreurs, T. Thiel-Clemen. (2014) Changing the resilience paradigm. *Nature Climate Change* 4, 407–409.
- ⁴ D. Freckleton, K. Heaslip, W. Louisell, J. Collura. (2012) Evaluation of transportation network resiliency with consideration for disaster magnitude, *Transportation Research Record: Journal of the Transportation Research Board*, No. 2284, 109-116, Transportation Research Board of the National Academies, Washington, D.C.
- ⁵ ITF (2018) *Balancing Efficiency and Resilience in Multimodal Supply Chains: Summary and Conclusions*, ITF Roundtable Reports, No. 171, OECD Publishing, Paris, https://doi.org/10.1787/c55d2768-en.
- ⁶ ITF (2016), Adapting Transport to Climate Change and Extreme Weather: Implications for Infrastructure Owners and Network Managers, ITF Research Reports, OECD Publishing, Paris, <u>https://doi.org/10.1787/9789282108079-en</u>.
- ⁷ ESCAP (2020), Policy Reponses to Covid-19: Transport Connectivity in Asia and the Pacific, United Nations Economic and Social Commission for Asia and the Pacific, Bangkok.



COVID-19 AND TRANSPORT A COMPENDIUM

This Compendium provides an overview of the main ITF work streams aimed at assisting our member countries with tackling the Covid-19 crisis in the transport sector. As such, the Compendium comprises ITF Covid-19 Transport Briefs, materials from all ITF Covid-19 webinars for ITF member countries, an overview of Covid-19 crisis measures in European road transport and a summary of Covid-19 recovery guidelines developed for freight transport in the ASEAN region.

Transport and Covid-19 responses and resources are available at: <u>www.itf-oecd.org/covid-19</u>.

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