



COVID-19 TRANSPORT BRIEF

How Badly Will the Coronavirus Crisis Hit Global Freight?

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.

The issue

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 [ITF Transport Outlook 2019](#). 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.

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

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

Regions	Urban freight activity	Inter-urban freight activity	CO ₂ emissions urban freight	CO ₂ 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

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

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 CO₂ 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.

The strongest emissions reductions would occur in the Russian Federation and Central Asia, with 54%. In all other regions, CO₂ reductions do not reach 50%, although they are still big: only China registers a less-than 25% reduction of CO₂ emissions from non-urban freight. For urban deliveries, the drop in CO₂ 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.

