COVID-19 impact on transportation

Briefing report

May 2020

V3

Advisian
Worley Group

COVID-19 Impact on Transportation

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An **unprecedented global crisis** is affecting our economies and lifestyles

The actual implications for each sector and the extent of the aftermath **changes are still unknown**

Transport sector is being **deeply affected** by the mobility restrictions and the activity level drop

All transportation markets are expected to experience **deep changes** facing sanitary processes, new mobility patterns and declining economy

To understand and measure the impact of COVID-19 in the transportation sector is key for a **better response facing new challenges**

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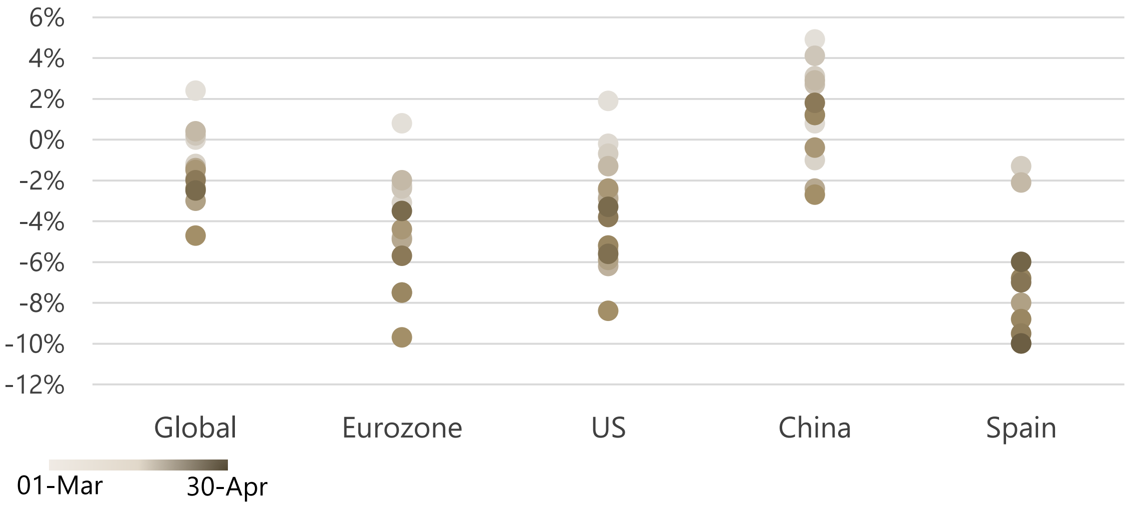
Economic impact

Different estimations for 2020 GDP growth rate published in March-April 2020



Deemed global GDP decrease

2% to 3%

In 2020

Sources: OECD, IMF, UN, WTO, CBO, BBVA, Banco de España, Oxford Economics, PwC, McKinsey & co, Roland Berger, S&P, Goldman Sachs, Morningstar, Funcas, Spanish Government

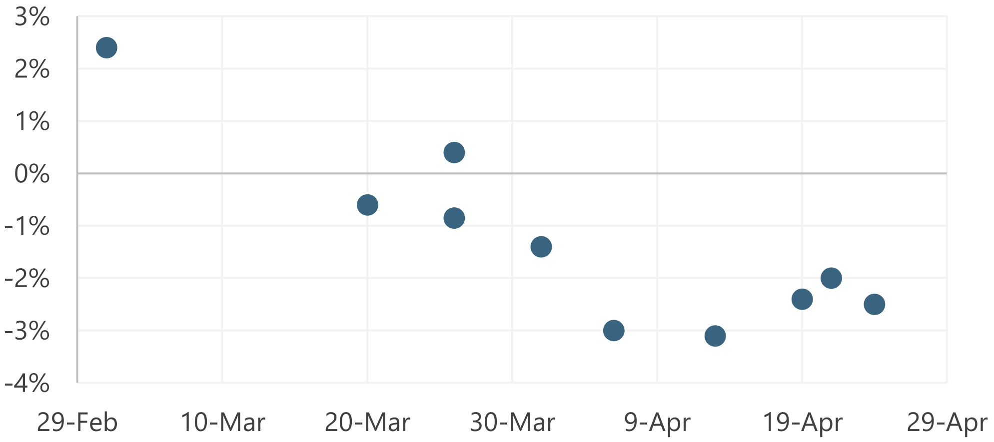
Uncertainty

Big dispersion in the forecasted GDPs

Downward correction

Early estimations were, in general, more optimistic than late ones

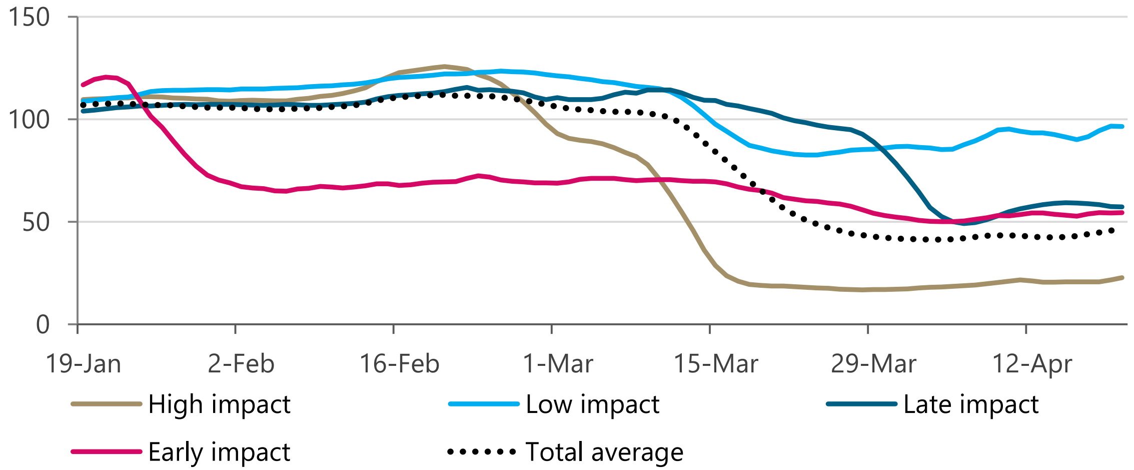
Global 2020 GDP growth rate estimations by publishing date



Land transportation

Types of impact in mobility

Trips per day weekly average (3rd week of January = 100)



Impact in mobility is different in each country/region, depending mainly on the actions taken by governments regarding restrictions

- High impact ~80% (Italy, Philippines, India, Spain)
- Low impact ~20% (Sweden, Taiwan, Finland, Estonia)
- Early impact ~February (Hong Kong, Cambodia, Korea)
- Late impact ~April (Russia, Japan, New Zealand)

- In the UK, there has been a big decrease in passengers in urban rail – up to 95%
- High-speed rail is expected to absorb part of the flights' demand

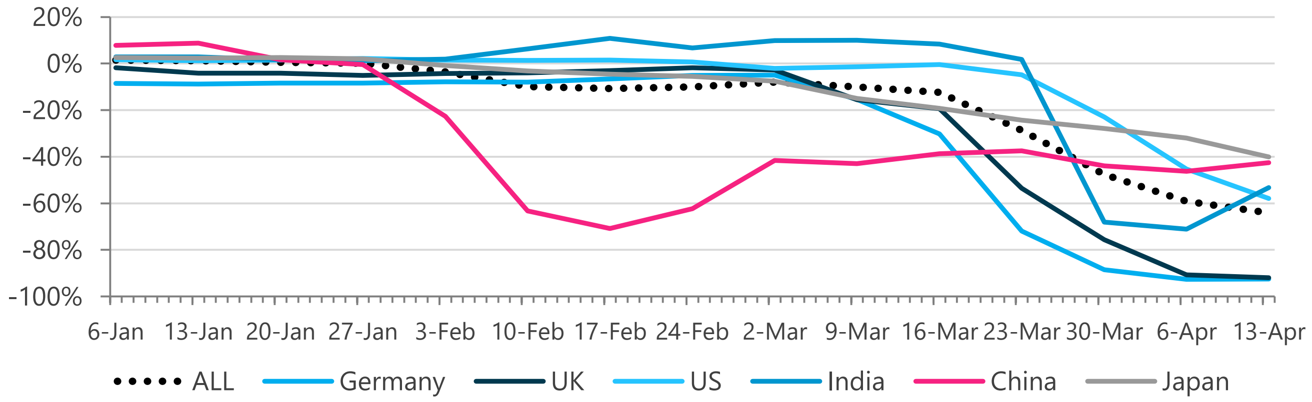
- Traffic decrease in highways as high as 80%
- As a result, a compensation to concessionaires is expected, most probably by a contract extension
- Heavy vehicles less affected than light (~40%)

Sources: Apple, GDT Spain, Global Railway Review

Air traffic & Tourism

Air Traffic

Scheduled flights: 2020 variation compared to 2019



Globally
65%
less flights in April

EU
59%
less flights in 2020

Globally
50%
expected income reduction in 2020

What to expect

- State aid to airlines for keeping routes (already implemented in some countries)
- Safety measures: aircraft distance, less capacity, rise in fares, no hand luggage

Tourism

40 to 70%
decline in the international tourism economy in 2020

What to expect

- Only regional/national trips in the short term
- Strengthened safety measures/restrictions in transportation
- Fear-related discouraged travelling
- Recovery scenarios are projected towards the 2nd semester of 2021
- Expected full recovery only once the vaccine is available

Freight & logistics

Lockdown

- Sectors such as **automobiles and textiles are the most affected**, however food and e-commerce distribution are rising
- **Air cargo capacity has dropped** due to decreased passenger flights. 50% of global air freight is typically transported by passenger aircraft
- Governments are conducting **measures at customs** to enhance trading, allowing deferrals or reduction of payments and extending licenses

Ports

- COVID-19 has coincided with **USA vs China trade war**
- Port **storage capacity problems**
- The **inactive containership** fleet in 2020 is expected to exceed **3,000 TEUs** - 13% of the world's fleet unused
- Chinese ports make up a third of the global volume. In 2020, a **decrease** between **2-5% TEUs** is expected for China ports
- The cancellation of more than 250 stopovers is estimated, representing the **elimination** of up to **30%** of the total **capacity** on the most affected routes

After Covid-19

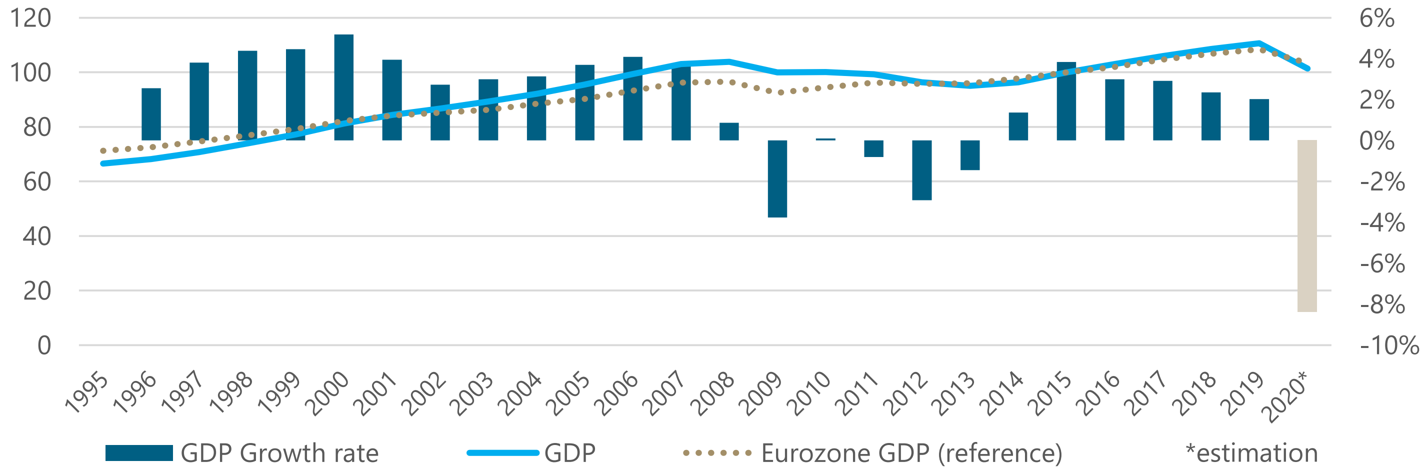
- Global bottleneck in supply chains during the crisis: new **microsystem-based operation.** This large increase in distribution implies increasing storage capacity
- In 2020, global trade is expected to **decrease** between **13%** and **32%**
- Intermediaries in the distribution chains will be reduced
- There is an opportunity for driving **digital transformation**
- **E-commerce** has grown during Covid-19 and is facing new challenges: increasing capacity to absorb demand and get to the customer sooner

Sources: WTO, Alphaliner, Forbes

The case of Spain

Economic impact

Real GDP (Index 2015=100)



-6% to -10%

GDP growth rate expected for 2020

Projections 2020

- 18-20% Unemployment rate
- -31% in imports
- -27% in exports
- -25% investment

+20%

of GDP comes from activities directly affected

Tourism
Entertainment
Transport

Sources: Eurostat, INE Spain, Spanish Government, Bloomberg

Easing the lockdown

Phase 0

- **Sports:** individually
- **Shops:** with appointment
- **Restaurants & Bars:** delivery only

Phase 1

- **Sports:** high-performing centers open
- **Shops:** security measures (2m distance)
- **Restaurants & Bars:** only terraces; $^{1}/_{3}$ max. capacity
- **Hotels:** open; common areas closed
- **Religious places:** $^{1}/_{3}$ max. capacity
- **Agriculture & Fisheries** restart activity

Phase 2

- **Sports:** resumption of professional leagues
- **Restaurants & Bars:** $^{1}/_{3}$ inside max. capacity
- **Schools:** children under 6 if parents are working
- **Religious places:** ½ max. capacity.
- **Cinemas, theatres, auditoriums & museums:** $^{1}/_{3}$ max. capacity
- **Events:** 50 seating capacity indoor; 40 seating capacity outdoor

Phase 3

- **Shops:** $^{1}/_{2}$ max. capacity. (2m distance)
- **Restaurants & Bars:** measures will be smoothed, distance will be maintained
- **Mobility:** general mobility will be more flexible (within province)

New Normal

- **Mobility:** between provinces
- **Schools:** Academic year starts in September

Phase 0 | Phase 1 | Phase 2 | Phase 3 | New Normal

4th May

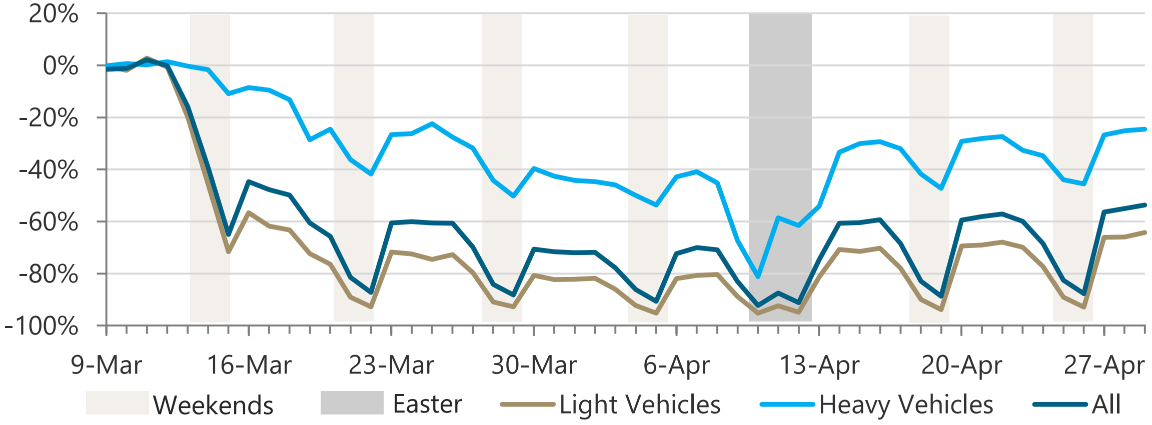
At least **2 weeks**

Between **6-8 weeks**

Progress between phases will be determined with objective criteria based on markers that will show the disposition of each province: healthcare capacity, both primary care and hospital care, and the number of ICU beds in each of the territories; the epidemiological situation in the area, with diagnoses and identification of the pandemic; implementation of joint protection measures in public spaces, and mobility and socioeconomic data.

Road traffic

Traffic variation respect to equivalent day



Light vehicles

-80%

of equivalent day on average

Heavy vehicles

-40%

of equivalent day on average

Compensations to road concessionaires for the traffic drop are not clearly specified in all contracts, allowing potential compensations

Decrease in roads traffic due to:

- Restrictions to mobility
- Decrease in economic activity

Potential compensations:

- Extending the concession period by 15%
- Modifying those economy-related clauses incorporated in the contract

Opportunities

- Flight restrictions diverting traffic to roads
- Increase in suburban and rural living around cities
- Relocation of production to national factories
- Changes in logistic model - truck centered chains

Sources: Ministry of Interior. DGT, BOE

Urban mobility

Temporary impact Short Term

What is about to happen

- Social distancing
- Slow recovery of trip volumes
- Trend to individual vehicles (car and bicycle)
- Public Transport (PT) capacity restriction up to 30%
- Risk of increased traffic and consequent pollution

What is needed

- Increase in PT frequency for maintaining system's capacity
- Temporary measures as the recovery unfolds – agility and adaptability
- Larger dedicated space for pedestrians and cyclists

Structural changes Long term

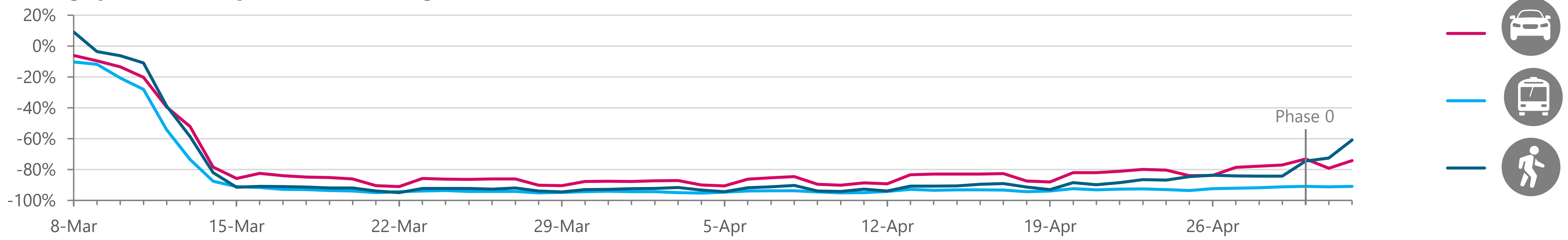
What is expected

- Decrease on trip rates as increased:
  - Teleworking
  - E-commerce
  - Online education

Opportunities

- Impulse modal shift to micro-mobility and PT
- Reformulate infrastructures and public space usage in cities
- Achieve safe, healthy and sustainable mobility

Driving, public transport and walking variation in Madrid

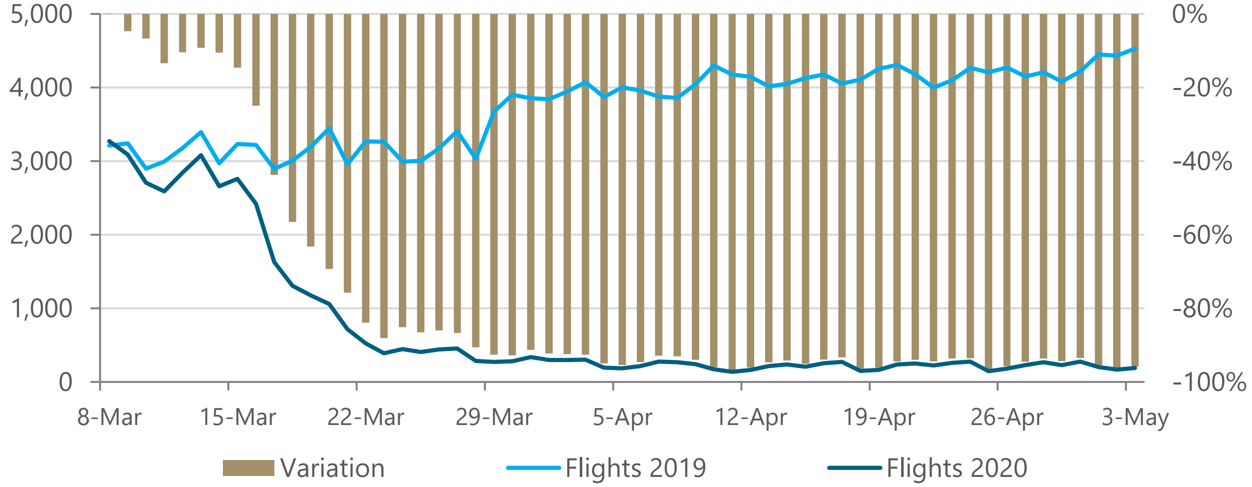


Sources: Apple

Air traffic & tourism

Air Traffic

Scheduled flights: 2020 variation compared to 2019



Current scheduled flights
5%
of 2019 volumes

Flights' recovery plan

- Stage I - Only within Spain
- Stage II - European routes
- Stage III - Long-distance flights

Tourism

- Big shock in the sector's economy for drop in demand volumes
  - Short-term: restrictions to mobility
  - Medium-term: decrease on international tourism
- **Internal tourism** expected to increase due to medium-term international flights restrictions
- Majority of tourism movements will be carried out by **road** and **train**
- Potential space restrictions in accommodations

13% employment in Spain generated by tourism

81% 2020 touristic GDP fall forecast compared to 2019

12% of GDP in Spain generated by tourism

Sources: *Eurocontrol, INE, Exceltur*

Conclusions & Advisian approach

Conclusions

Global impact

- **National policies** are likely to prevail over regional coordination
- The **unprecedented situation** is expected to have big impact in all economies, setting a new scenario for production, consume and transportation
- Changes in **transport users' behavior**: rise in teleworking, e-commerce, individual modes, suburban living
- The actual effect in **economy** is still unclear, but global GDP is expected to fall between 2% and 3% in 2020
- **Air transport** is among the most effected sectors (expected fall ~60%), together with tourism (~45-70%)
- **Land transport** will keep being affected by the fall in the economic activity even when restrictions to mobility end
- **Logistic** crisis is defying the freight market and pushing potential changes to the production model. Changes in production and consumption trends may favor subsegments

Impact in Spain

- **Spanish economy** will be among the most harmed ones, as a reasonable segment of it is directly affected
- Mobility restrictions will last at least until **mid/late June**
- In national roads, **Light vehicles** traffic decreased 80% and **heavy vehicles'** 40%. Road traffic will start recovering as the restrictions ease, but the recovery timeline and final volumes will vary on each route
- Compensation for **road concessionaries** for traffic loss is still under negotiation
- **Transport capacity** will be reduced because of sanitary restrictions (all modes and sectors)
- **Urban trip** rates are expected to decrease, facing new mobility challenges and opportunities
- **Air transport** and tourism will be deeply hit by the crisis with a long recovery time
- **State role** will be essential for the recovery of all sectors

About Advisian

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Providing the advice and partnering with our clients to implement that advice, we are a practical, innovative, results-driven organisation with a singular focus on the success of our clients. We are open, honest and direct, and we deliver what we promise. We advise, then deliver.

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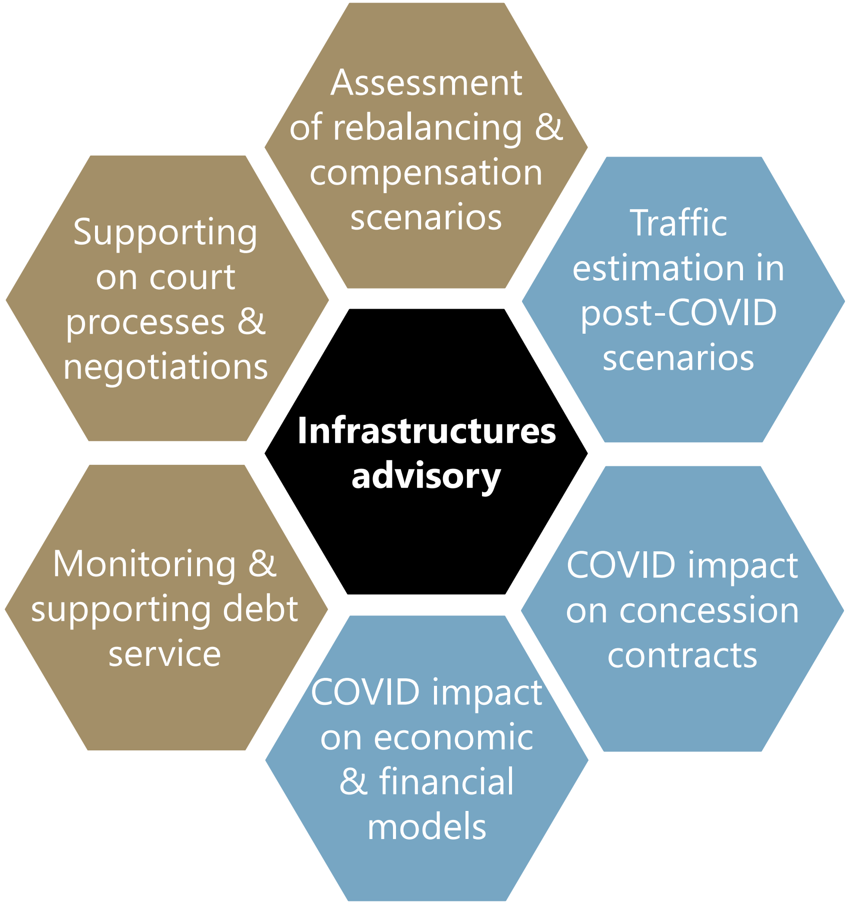
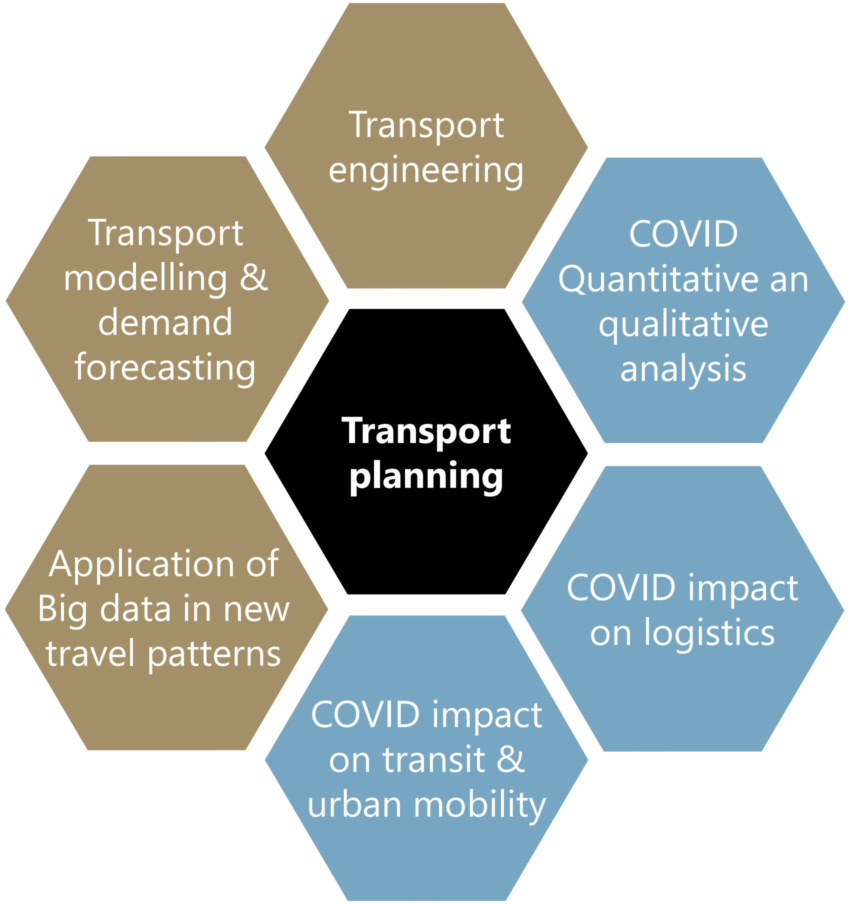
Advisian approach

Providing a full suite of commercial and technical advisory services, across project inception, delivery, and operations related to post-COVID scenarios.





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