

How is the global transport sector responding to the Coronavirus (COVID-19)?

27th April 2020

Introduction

As a result of the COVID-19 virus outbreak, transport providers are having to make substantial changes to how they manage their organisations and serve their customers, within a rapidly evolving and uncertain environment. For many, how they react is crucial for the sustainability of their businesses and the security of their employees, as well as having substantial implications for the societies and economies within which they operate.

Over 100 metro, rail, bus, light rail and airport operators participate in the international benchmarking groups run managed through the [Transport Strategy Centre \(TSC\)](#) at Imperial College London. The majority of these are having to take significant actions to cope with the outbreak affecting virtually every aspect of how they conduct their business.

The members of these groups have been sharing valuable information within the individual benchmarking groups about how they are responding to the outbreak. This has been synthesised by the TSC to provide a summary of the practices and approaches implemented, and a summary of how these actions have been progressing since the early stages of the pandemic. These are included in this document in order to help organisations in the transport sector to optimise their response to the COVID-19 virus outbreak. The information has been anonymised to respect confidentiality according to the protocols of each group. This is a dynamic situation and therefore this document will be updated on a periodic basis.

The key findings have been categorised according to the following themes:

- Strategic management and forward planning (decision-making, relationship with stakeholders, staff information, business continuity and lessons learned for the future)
- Impact on demand
- Staffing (levels, protective equipment, change in roles, staff safety, homeworking and leave)
- Passenger and customer measures (e.g. passenger information, refunds etc)
- Operational changes (service levels, limiting contact between staff and passengers, etc)
- Maintenance and Asset Management (adjustments to reflect changes in service and demand levels and availability of resources)
- Cleaning regimes and equipment (frequency, scope, staffing, equipment and chemicals)

The first version of this document was issued on 2nd April 2020; this updated version includes additional information reflecting how organisations' responses to the pandemic have evolved. Further versions will be issued as more information becomes available including on recovery, future planning and funding aspects.

How actions have been progressing during the pandemic

As the TSC have been assessing the transport sector's response to the pandemic, **most organisations have demonstrated that their strategic and operational responses are stabilising and embedding.** Most currently appear to be in a steady phase of delivering a basic service for essential travel while citizen movements in their wider cities and countries are significantly restricted. The most critical measures to manage decision-making, to protect frontline staff safety and to reduce the number of customers using the services were implemented very early. These have been refined and expanded in scope to improve effectiveness, but the key management measures have not changed significantly. Figure 1 shows a summary of actions the transport sector has taken in response to Coronavirus COVID-19 so far and how these have developed over time. An ongoing major topic of discussion is how transport organisations can transition, operationally, from the most restrictive period into a partial reopening of cities and networks, while prioritising social distancing and essential travel.

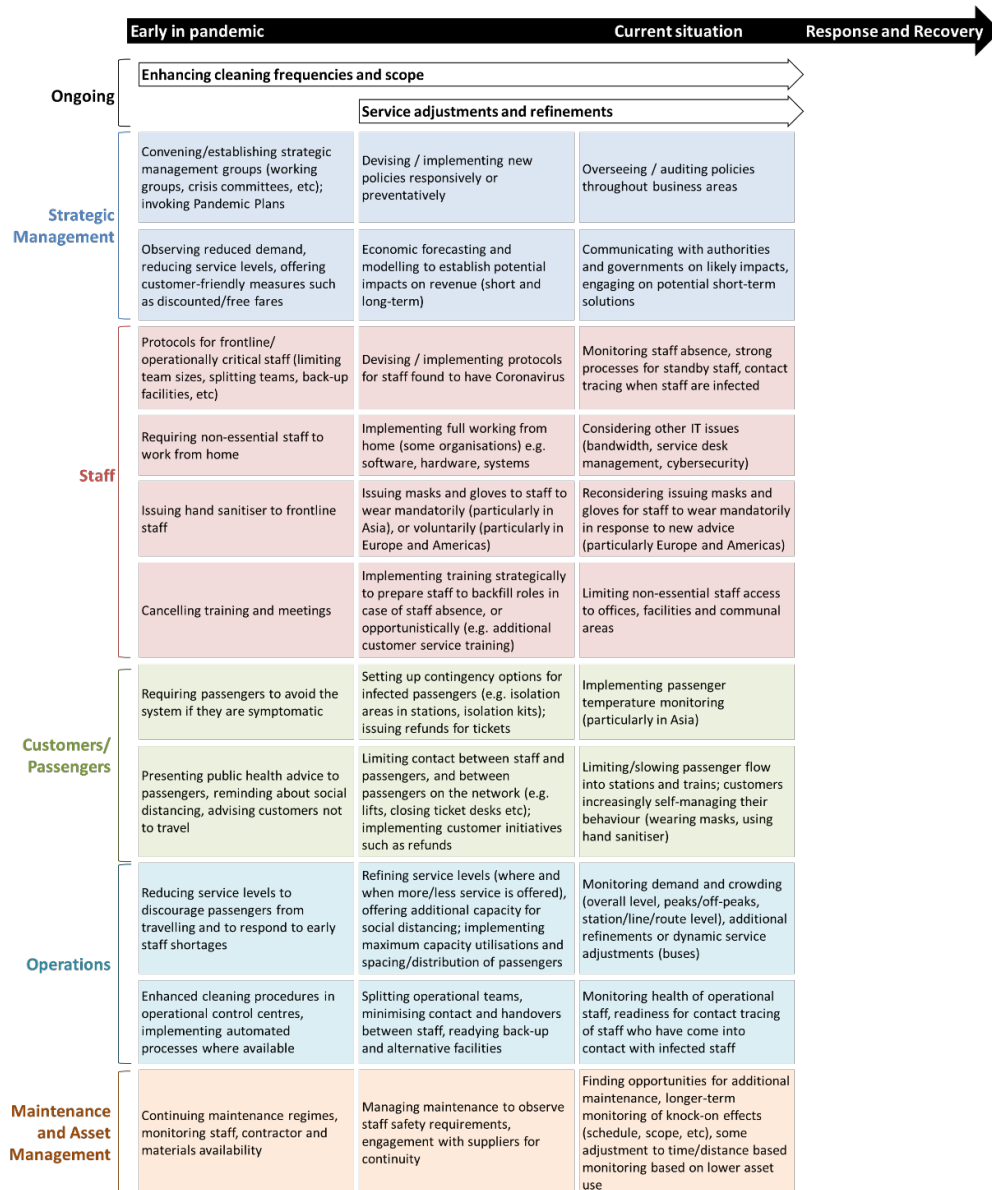


Figure 1 – Summary of how actions taken in the transport sector in response to Coronavirus COVID-19 have been progressing

Key actions and approaches being undertaken within the transport sector

Strategic management and forward planning

- Many organisations have formed **special committees** bringing together relevant departments for communication and co-ordination. A **multi-organisational approach with government and other key stakeholders** is important to ensure a 'single source of truth' and to share best practices.
- **Sufficient management capacity/redundancy** is important to ensure continuity in decision-making.
- Alternative or **backup control rooms or critical meeting locations** are being used by some organisations, in some cases because operational **teams have been split to avoid team overlap**. Some organisations are setting up new back-up options to further add contingency.
- Some organisations already had "**pandemic plans**" which they can follow and are being updated continuously; some are using broader **Business Continuity Plans** to guide their response.
- **Accurate / timely data** is critical; e.g. up-to-date ridership data available to leadership.
- Several organisations are **planning for when restrictions on citizen movements will be eased**. Initially, it appears that **many measures introduced to manage the pandemic are likely to continue in the long term**, particularly enhanced cleaning regimes, processes for staff health and safety, communication campaigns, and planning/contingency for reduced staff availability.

Impact on Demand

- Typically, by mid-April, passenger **demand had decreased by 80%-95% for the majority of railways and metros**, although in those countries affected at an earlier stage demand has started to recover, increasing again from previous lows, with some of these now seeing demand at around half of pre-pandemic levels.
- **Demand for bus services has typically fallen less** than for rail, as bus services have continued to support key workers and other essential travel. Internationally, bus demand has fallen by around 80% on average, but only by around 50% in North America, on average.
- Remaining demand is mainly concentrated on essential commuting trips, with greater reductions in off peak demand. However, there is some evidence of "peak flattening" with commuters altering their travel times to avoid the busiest periods.

Staffing

- **Flexibility in staffing is key**, including training of staff (e.g. management) to undertake critical operational roles including cleaning, **relocating staff from less critical areas** of the organisation and planning for additional drivers.
- **Dividing critical staff into separate, segregated teams** is increasingly being used to reduce risk of cross-infection. This includes rearranging shifts so that staff from different teams do not overlap, changing handover locations, implementing remote handover and using minimum staff contingents.
- Organisations are **restricting access to critical locations (e.g. control centres)** to key staff only.
- **Dedicated phone lines are being opened for staff to obtain information**; these may be staffed by medical professionals.

- **Determining minimum staffing requirements** and the service provision possible with increasing levels of staff absence is necessary; impacts are being mitigated by cancelling leave and providing training where required.
- **Organisations have rapidly developed procedures for if a staff member contracts Coronavirus COVID-19.** Procedures include taking assets out of service (e.g. trains), contact tracing to identify other potentially affected staff, and thorough cleaning and disinfection of workspaces.

Customer

- Information campaigns are present at **multiple locations (e.g. ticket gates) to draw additional attention** and in multiple languages regarding hygiene advice, avoiding travel and distributing groups on platforms, stations, and vehicles.
- Some organisations are implementing **mandatory temperature checking** for passengers, particularly in Asia. Some non-Asian systems are now starting pilot temperature screening programmes.
- **Changes to avoid contact with surfaces** include **requiring contactless (e.g. smartcard) payments only**, asking passengers to use their elbows to press door buttons and leaving doors of train and bus stations open.
- Some organisations have prepared **contingency isolation areas** (in stations, depots, etc) as well as isolation kits (with protective equipment for staff) for when a customer is symptomatic.
- Some are **freezing fares, offering free travel temporarily, or allowing more flexible conditions** for refunds, and implementing special dispensations for health workers.

Operational changes

- Organisations are promoting social distancing by **reminding passengers to distribute themselves**, implementing floor, wall and seat **signage** to maintain distances and enforcing **maximum capacities** particularly on buses, but in some cases on railway and metro rolling stock.
- Most organisations are reducing services / facilities, but sometimes also **aiming to reduce density/crowding** of customers by retaining service where possible. It is likely that service changes will need to balance reduced demand with increased need for capacity for the indefinite future, and buses are implementing maximum capacity utilisations.
- Many organisations are **limiting contact between essential frontline staff and passengers** (e.g. preventing front-door bus boarding, restricting access to the train doors closest to the driver, avoiding handover of tickets and using intercoms).
- **Ensuring automated processes are fully functional** (e.g. automatic door opening, remote operation of lifts, remote monitoring facilities) to avoid staff members needing to carry out unnecessary tasks on site.

Maintenance and Asset Management

- Currently, **maintenance activities appear to be progressing as normal** for many organisations with enhanced contingency planning in place, and with some opportunistic additional maintenance taking place. There are examples of **moving to temporary distance and/or time-based maintenance regimes** recognising the reduced intensity of use for many assets.
- Longer-term impacts on asset management may prove a more substantial issue than managing maintenance during the immediate pandemic. For example, organisations are identifying that **reliance on third parties and their supply chains may be problematic** as the pandemic progresses. This is a consideration for asset management going forward.

Cleaning

- **Cleaning is being focused and increased according to risk:** e.g. on services considered to pose a greater risk (e.g. lines to airports) and hourly cleaning of more frequently touched items/surfaces.
- **Air conditioning and ventilation systems are being improved/modified** to reduce infection risk.
- Most key staff and customers are being provided with hand sanitisers. Initially, provision of masks to staff was less universal outside of Asia, but European and American transport organisations are increasingly providing masks to staff to wear voluntarily (in some cases mandatorily) reflecting new advice from health authorities.

Appendix A

The [Transport Strategy Centre \(TSC\)](#) was established in 1992 as a centre of excellence serving the railway industry on strategic, economic and technology issues. The TSC has since broadened its international group of research partners and strengthened its position as strategic advisors to public transport organisations around the globe. The TSC at Imperial College London is well known within the transport industry for its research in the field of public transport operations and management, transport economics and policy, and its expertise in relation to the initiation, facilitation and management of multi-year international benchmarking projects.

The TSC facilitates and manages ten programmes of international transport benchmarking in the rail, metro and light rail, bus and air transport sectors. These groups provide a forum for organisations to share their experiences and exchange information. Figure 1 below illustrates the global nature of the organisations that comprise these groups.



Figure 2 – Map of TSC benchmarking group members

This document was produced by the Transport Strategy Centre (TSC) and provides the independent analysis by researchers from the TSC at Imperial College London.

Property of the TSC at Imperial College London