

# **Redesigning public transport in Italy**

**Position Paper**

April 2020

# A new era for local public transport

If we are to support and strengthen the efforts toward the difficult recovery ahead, I am convinced that the state's efforts will need to be more than just monetary – they must be aspirational as well. We will need to put forth a vision: where we want to go tomorrow, the ideas we have about the future of our communities, the priorities we set, and which of them we bet on.

The purpose of this paper is to echo those sentiments.

For this reason, we absolutely support the positions expressed in a recent interview by Carlo Bonomi, the President-designate of Confindustria.

Having a vision does not mean being unpragmatic and chasing impractical dreams; it means looking toward the horizon to establish the course and the best way forward. Our vision incorporates the importance of the destination; keeping it in mind is just as important as reaching it.

How does this apply to local public transport? A few clear guidelines are important. We all know that when we start leaving our homes again, transport in, around, and outside our cities, within the country, for short or long distances, on the road and on rail, will not be the same as before and, almost certainly, things will not be as they were for a long time. Getting on a subway, a train, or an urban or a regional bus will be more difficult than two months ago, without a doubt. It will take more time and be less convenient than before – that much is clear.

But I believe that citizens will be willing to understand and make these sacrifices if they are sure the leaders of companies and business organizations are pushing for real change instead of focusing solely on finances. Leadership means knowing how to ask for the right resources with clear ideas, innovative skills, and a precise vision.

We must be able to persuade the government and parliament that the transport of people is, first and foremost, a civil service to the community, whereby the provision of these services is the foundation to building and balancing social policies and is necessary for ensuring the constitutional right to mobility. This does not mean they are exempt from the rules of business – quite the contrary. It is a matter of managing a complex system by regulating it through corporate social responsibility. This means that if the public plays their part by investing in adequate resources, setting targets, respecting the timing of payments, and adjusting the system when it is overwhelmed (by COVID-19 or otherwise), we need an equally strong ability to do business despite the challenges we face. In a nutshell: both the public and the leaders of companies must do more by proposing and implementing positive actions, innovation, and a productive attitude toward calculated risk.

First, our vision includes the transition out of the lock-in phase without jeopardizing safety. We have shown that we can do so, and we will continue to without taking any shortcuts. Second, we need to be certain about the opportunities, the investment, the speed of administrative choices, and the roles that everyone must fill in the community. It will be critical to determine who commissions, who acts, and who oversees. For transport companies, it's a matter of getting back to what many were already doing as soon as possible: investing in sustainability and taking on new tasks related to our changing communities. Until 20 years ago, transport companies were asked for just a few things: punctuality and safety of passengers and staff. Today, they have new and enormous tasks to

fulfill: environmental sustainability, more complex urban systems, inter-modality between rail, road, and new modes of transport that respect the environment while addressing the new demand for “door-to-door” services. We need to see past trivialities and ideas that merely keep us afloat but go nowhere. If we want to take back our lives, we have to change a lot about the way we operated until two months ago – and we have to do it quickly. Perhaps this is why public transport is the nerve center of the country: processing an increasing number of tasks in an ever-changing environment.

The public transport represents the voice of a Country and, for this reason, all citizens have the right to know and fully understand its problems. This is why every line of this paper has been written to be understood not only by the circle of industry professionals, but also by the outer people.

Regarding our expectations, it will not be helpful to label our outlooks as “pessimistic” or “optimistic.” Because our job is to enable people’s right to move, we must to return to work in the best, safest, and most economically sustainable way. In doing so, our fellow citizens will gain more optimism: not as a passing mood, but as a way of looking at the world – knowing that our future will be brighter if together, we continue to better ourselves.

Arrigo Giana

Milan, April 2020

# Redesigning public transport in Italy



This paper aims to share a proposal for approaches and timeline to redesign and relaunch public transport in Italy, also in light of the COVID-19 emergency, which has further aggravated the economic and financial outlook for the sector.

We believe that public transport is the best way to ensure mobility within cities and to contribute to environmental sustainability, to the quality of our cities, and to equal opportunities among the different segments of travelers.

## The reference context

The public transport sector in Italy has been **one of the most affected by the current crisis**: there is currently a **contraction of 95 percent** in the number of **passengers** and of **90 percent** in **traffic revenues**, compared with a reduction in service from 25 to 45 percent.

The **economic implications** of the crisis for the country are an estimated drop in GDP in 2020 ranging between 6 and 9 percent and an increase in public debt that could reach about 150 percent of GDP, all of which underlines the extraordinary criticality of the economic emergency in question. With respect to the local public transport sector, it is estimated that turnover will fall in a range between 12 and 37 percent, compared to the 2019 figure. This



contraction is accompanied by a substantial inelasticity of costs for public transport operators, linked to reduced flexibility in the rescheduling of service and shifts.<sup>1, 2</sup>

The situation is further complicated by the high **fragmentation** of the public transport system, which, with more than 900 companies operating nationally, reduces the cost benefits of scale. As a result, the negative impact on turnover expected from the volume contraction would further undermine the margins of smaller operators.

However, **the country and the production sector are preparing for the restart:** the gradual lifting of restrictive measures and the reopening of production sites will be the beginning of a **gradual resumption of citizen mobility**, which the transport sector must be ready for. This entails ensuring a service essential to the recovery, in compliance with the new health security measures. At supply level, it is estimated that the current rules for social distancing (which impose at least one meter of distance between persons) **limit the system's**

**transport capacity to 25 to 30 percent** of the number of passengers transported in normal conditions.

The government and institutions are working on **phase 2** of the crisis, which is expected to see a gradual release of restrictive measures in favor of the recovery of the country's economy from **May** onwards. There are several possibilities in the study, for example, a release of measures by geographical area, by age groups of the population, and for production sites, but it will still be a transitional phase characterized by a slow and steady recovery.

Starting in **September**, we would expect **Phase 3** of the crisis to begin, with a more intense recovery of the normal economic, productive, and social activities (e.g., schools, universities), although with careful **attention** to possible resurgences of the virus that could lead to a **second lockdown phase** this fall.

<sup>1</sup> Range based on Prometeia estimations (March 27), Confindustria (March 31), IMF (April 14) and Documento Economia e Finanza 2020 (April 24). Estimate on debt/GDP ratio from DEF (April 24)

<sup>2</sup> Source: "Cerved - L'impatto del COVID-19 sulla filiera del turismo e dei trasporti." For the rail sector, the estimated contraction varies between 13 and 28 percent.

## Possible demand evolution scenarios

Based on these considerations, we **identified three possible scenarios of the evolution of demand for public transport**, characterized by a different recovery in volumes (ramp-up) and in the new normal scenario (at full capacity).

Among the **factors that impact the ramp-up**, we have identified the restrictive mobility policies for citizens, the closure of multiple commercial/social activities, a complete suspension of international tourism, as well as a significant decline in domestic tourism.

Among the **factors with structural impact** on the new scenario that will be “at full capacity” (2021 and beyond), we identified a radical **change in citizens’ habits**, with a significant acceleration towards the spread of tele-work and online courses, even after the virus has been beaten; a new normal that, on the same levels of GDP and other conditions, will present **structurally lower transport volumes than pre-crisis levels**.

In this regard, three distinct scenarios were identified:

- **Optimistic Scenario:** short-term containment and gradual recovery of

volumes, with a return to “normal” in the **first quarter of 2021**. The estimated reduction in traffic volumes is approximately 30 percent in 2020 and 10 percent in 2021

- **Base Scenario:** short-term containment and slow recovery in volumes, with a return to “normal” in the **second half of 2021**. With a similar reduction to the optimistic scenario in 2020 traffic volumes, a reduction of around 15 percent is expected in 2021
- **Pessimistic Scenario:** resurgence of the virus in autumn and a second lockdown period, with a gradual release of the restrictive measures only starting in the beginning of 2021 and therefore a slow return to “normal” only in the **first half of 2022**. In this scenario, there would be a sharper reduction in traffic volumes, amounting to about 50 percent in 2020 and 25 percent in 2021.

In this challenging context, public transport need to be able to drive the ramp-up, adopting the necessary health security measures and ensuring the long-term sustainability of the service, in light of increased supply and lower traffic volumes.



## Actions taken by operators at the international level

The ongoing pandemic is having **repercussions around the world**, and governments and institutions are taking different measures depending on the severity of the situation in their respective countries. Also abroad, one of the sectors most affected is public transport, with operators taking specific actions to safeguard citizens and to ensure the maintenance of an essential service for the communities.

From a global perspective, to date there are **three different macro-areas** (Asia, Europe, and North America) characterized by different stages of maturation of the pandemic. In particular:

- **Asia** (with a particular focus on the countries most affected and already at an advanced post-emergency phase, such as South Korea, China, Singapore), in which public transport operators are taking a number of initiatives aimed at better addressing the “new normal”:
  - **Scheduling daily activities of sanitization of vehicles and stations** by increasing the frequency of ventilation and replacement of air filters and the use of innovative solutions and products that minimize intervention times
  - **Establishment of temperature measurement obligations and use of individual protection devices** for passengers and employees.
- **Europe** (e.g., Spain, Germany), characterized by a **categorization of the initiatives to be taken** to allow for recovery in Phase 2. These include solutions that will enable:
  - **Flexible service scheduling** through the development of systems for real-time monitoring of the demand for transport services for passengers

- **Adjusting passenger flow** by monitoring the level of crowding of the vehicles and the communication of available spots and recommended access points.
- **North America** (with a focus on major US cities), characterized by actions implemented by public transport operators aimed at providing an immediate emergency response:
  - **Sanitation and emergency disinfection of vehicles and stations** with daily frequency to contain the spread of the virus
  - **Communication to citizens** about how to behave on public transport in order to minimize the risk of contagion through signals and digital platforms
  - **Widespread adoption of smart working** to minimize the movement of citizens during the peak infection phase.



## How to redesign the public transport system in Italy

In light of the context and possible scenarios for changing demand, the public transport sector will face a **profound transformation** in the near future. It will be essential to ensure a safe and effective public transport service, especially to the less well-off segments of the population, and also avoiding overloading the country's road infrastructure and worsening traffic levels in urban centers.

What we propose is a **trust-based pact**. A pact that includes the regulators, public transport operators, trade unions, trade representatives, citizens and institutions **with the shared goal of redesigning and revamping the industry** in Italy, to ensure the safety of passengers and workers on the basis of clear and unique rules.

Operators must therefore be an active part in this pact, and be sponsor of a number of necessary changes:

- **A new travel experience for the passenger**, with a strong role of technology to support the different stages of travel and specific to the customer segment (e.g., workers, students)
- **A new service model** that is much more flexible (e.g., possibility of rescheduling work

shifts, capacity planning based on demand forecasting) and resilient to extreme events, in order to ensure continuity of service and always the best response to customers

- **A new way to work for employees**, by investing even more in training, ensuring security and social distancing, and providing the ability to work remotely
- **Greater integration between the transport system and the different production and social systems**, through a different organization of work and school life, redesigning the schedules of cities and territories.

In pursuing this transformation, it is crucial for operators to **act in accordance with current legislation**, checking the level of compliance of the identified initiatives on a timely and periodic basis.

Transport companies will have to recoup the expected revenue losses, which by 2020 alone are estimated to be up to EUR 1 billion, and will have to define **investment plans to ground all identified initiatives**; for this second group, an investment is estimated to be around **EUR 500 million over the next two years**, some of which may find some form of remuneration in the use of the service (e.g., levers of data monetization).

## A new travel experience for the passenger

As for the new travel experience, it will become even more fundamental to **protect the passenger's health**. In this regard, with the beginning of phase 2, **public transport can be used** exclusively by those who **do not have symptoms of illness** and that are **equipped with the appropriate individual protection devices**, i.e., masks. In addition, for further protection of the passenger, **preventive health checks** of travelers should be put in place, as well as procedures to **restrict access to stations and vehicles** to safeguard **social distancing** measures.

At operational level, changes to the passenger's travel experience may translate, for the **public transport operators**, to the **following short-term initiatives** (non-exhaustive):

### ■ Passenger flow management

- Separation of inbound and outbound flows at stations, stops, and parking lots through dedicated signals (vertical, horizontal)
- Management of queues in waiting areas for means of transports and for the access to front office premises through the use of vertical signals and the application of stickers that encourage distancing
- Management of the occupancy of the vehicles through stickers that indicate the available seats and walking points to the passengers.

### ■ Managing passenger communication campaigns

- Definition of the appropriate communication tools and channels to ensure effective information (e.g., speaker ads and signals at the station, website, mobile applications) and in compliance with new travel behaviors
- Definition of key messages for

communicating new travel and access rules to stations and stops.

### ■ Cleaning and sanitizing vehicles and environments

- Scheduling of cleaning and sanitizing of environments and means of transport (either in use or alternatively, in respective end stops)
- Planning of the replacement and sanitization of air conditioning and ventilation systems of vehicles and stations
- Implementation of systematic monitoring and quality control of cleaning and sanitization operations.

Looking at a later phase of returning to normal conditions (Phase 3), it will be crucial to encourage the **widespread use of technology to support the traveler's experience** by means of dedicated apps that allow for a **more informed travel choice** (e.g., booking the travel time slot, checking real-time crowding of vehicles and stations, monitoring of incoming vehicles, and recommended access points).

### Differentiation of the technology service offered

can also be made based on the **customer segment** and travel reason (work, study, tourism, health, shopping, leisure, etc.) in order to dynamically optimize the circulation of passengers, taking into account of the state of the network.

In the last quarter of 2020, a number of initiatives will need to be implemented, with a **strong role of technology to support travel**. These initiatives, which may be the subject of pilot phases in the second quarter of the year by the most technologically advanced operators, consist of the development of:

- **Travel online (and mobile app) booking systems**, through which it is possible to reserve the seat for a selected route and time slot, avoiding crowding in travel environments and increasing passenger safety

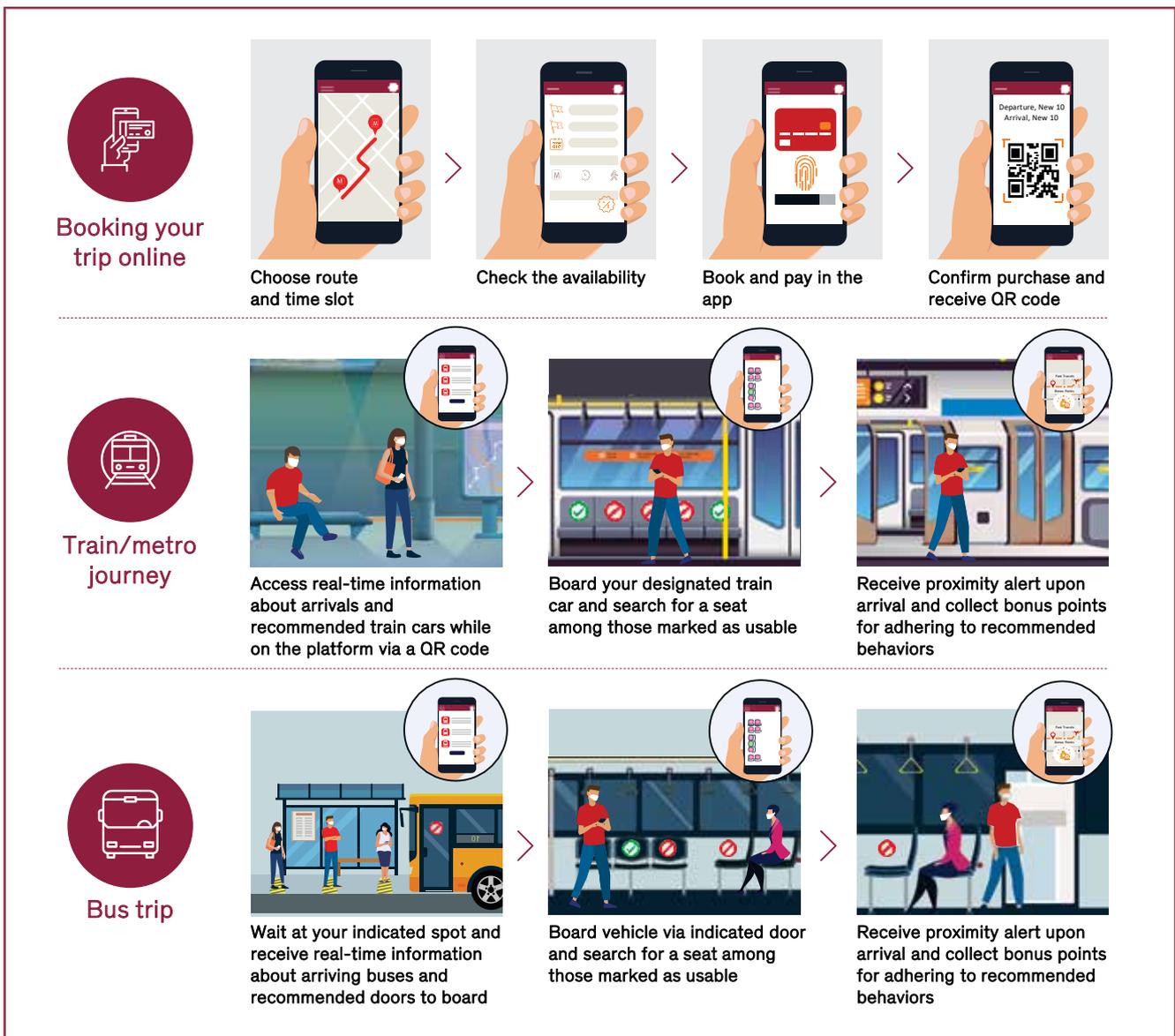
- **On-time capacity monitoring systems**, through the use of state-of-the-art technological solutions (e.g., beacon technology, passenger-counting systems) capable of informing operators and passengers in real time about the loading capacity of arriving vehicles, indicating recommended means of transport, and access points
- **Station crowding monitoring systems** through the evolution of current video surveillance systems to ensure timely monitoring of stations and stops, informing the operator and passengers in real

time about the level of crowding of travel environments

- **Travel education programs**, through mechanisms that help people understand the new travel rules and encourage passengers to adopt correct behaviors (e.g., instant surveys and loyalty reward programs in the mobile application).

The evolution of the travel experience must be based on a continuous dialogue with passengers, facilitated by the increased use of digital channels that can facilitate the timely collection of suggestions.

## Possible technological evolution of the travel experience



## A new service model

As for the **evolution of the service model**, Phase 2 will be characterized by a gradual recovery in demand and passenger numbers. In order to meet a renewed demand for transport, operators will have to pay extra operating costs mainly due to:

- **Set of measures taken to protect the health of passengers** (e.g., increased frequency of sanitization and disinfection of vehicles and waiting areas, implementation of new systems for limiting accesses and managing flows in stations and vehicles);
- **Increased supply levels** (i.e., increased frequencies and reduction of average load factor) especially at peak times, which are more prone to crowding situations.

Uncertainty over demand developments in the coming months requires maximum **flexibility** from the **public transport operators** to respond in a timely manner to any changes in conditions. It is crucial to continuously monitor the evolution of transport demand on the basis of institutional reopening decisions and through periodic surveys to passengers to see if and how they intend to use the public transport service.

In the medium to long term, **flexible rescheduling of the service** by operators will have to rely to an **innovative technology infrastructure to support transport** that will allow a reliable forecast of the evolution of demand in view of specific early predictor indicators (e.g., online passenger activities such as bookings and purchases, local events).

It is clear that this **“enhanced” service model will involve additional costs** for the public transport operators, who had already limited, if not negative, margins before COVID-19.

## A new way of working for our employees

The evolution of the service model will have to be accompanied by a **new way of working for our employees**. To this end, in view of the start of Phase 2, it will be crucial to ensure that the **widespread distribution of masks** is in place for selected categories of employees, as well as a set of procedures for frequently checking the body temperature and health of employees. These initiatives will need to be accompanied by effective **communication and staff training**, with the aim of encouraging the adoption of behavior appropriate to the situation. In addition, employees will need to **limit contacts and travel, where feasible**, enabling and enhancing smart working.

**Technology plays a primary role** in protecting the health of company staff and in making production and administrative processes flexible, as has already been experienced in the weeks of lockdown. Therefore, state-of-the-art solutions will need to be equipped to minimize any operational slowdowns. At the operational level, to ensure that these objectives are achieved, the **technology to support training courses** and the **management of administrative practices** have a fundamental role.

## Greater integration between the transport system and the different production and social systems

Especially in the ramp-up phase, but also in the next phase at full capacity, it is important to redesign the overall set of services offered to citizens through a remodulation of the cities' and territories' schedules and an **integration of the transport system and the production system as a whole**.

Extension and flexibility in the working hours of offices and shops, opening of schools according to staggered time slots, remote learning for universities, etc. are examples of actions that can evenly distribute the movement of citizens by the day, reducing gatherings. Public transport can support this change by offering business-focused services, introducing "on-call" services, encouraging the use of vehicles at

off-peak times, improving the offer as a whole. Coordination between transport companies, business and worker representatives, local governments, and universities will therefore be necessary in order to define and share **operating modes**.

It is a simple principle in words, but extremely complex in its implementation given the need to converge many specific interests towards a single interest: the health of citizens.

The four new pillars above illustrate how to redesign the new public transport system and undoubtedly lead to **immediate and lasting benefits for all citizens**; at the same time, they **challenge the economic sustainability of operators**, as they will be forced to ensure a high capacity even in the light of lower expected volumes of traffic and to implement a whole range of initiatives aimed at the safety of passengers and employees.

### The 10 key initiatives to redesign public transport in Italy

- 1 Flexible** scheduling of the service as demand increases
- 2 Continuous sanitization of vehicles** and stations to protect the health of passengers
- Technology systems for **passenger flow management**, in order to limit the risk of contagion
- 4 Customized** and **real-time** communication systems for passengers
- 5 In-app travel booking systems** (route and time slot) to maximize service level and demand forecasting

- Technology solutions for **real-time monitoring** of passenger volumes and to inform operators and passengers about recommended routes and access points
- Smart **video surveillance** systems to monitor the crowd levels at stations to support the decisions of operators and travelers
- 8 Digital** solutions to **inform travelers** about new travel rules and incentivize them to adhere to new **behaviors**
- 9 Security measures** to support staff and enhance **smart working**
- 10 Continuous** coordination between public transport **operators** and the **production system** as a whole to re-modulate services and protect the health of citizens

## Proposals for a new Italian public transport system

The pact we want to sign envisions us at the forefront of rebuilding trust with our customers and people. At the same time, in order to be able to comply with this pact, there are **certain necessary conditions that only the country can guarantee**. These conditions can be summarized in the following proposals:

- One **clear and unique legislation at national level** that regulates the social distance in the stations and on transport vehicles, the use of masks by citizens, and all the behavioral norms that will be necessary. Compliance with these rules will be devolved to the personal responsibility of those who will use the transport system. In this regard, transport companies will have to work to adopt a massive communication campaign
- A table for **reshaping the priorities of investment and public funding** necessary to ground all the initiatives described above, especially for those with the highest technological content to serve transport

- Financial intervention **rebalancing existing SLAs**, both in terms of the emergency phase and in the medium/long term, where pre-pandemic revenue levels may no longer be achievable
- One **industrial policy** that exploits this discontinuity to **modernize the sector in Italy**, addressing the issue of **fragmentation**, regulation, industrial relations, and **staff engagement rules**, even in light of the lower structurally expected “normal” volumes that will make it essential to optimize resources in general
- A **“mobility license”** as a goal, which consists of a **certificate that will allow individuals to travel** (and use public transport) **if considered fit to resume normal work and leisure activities**.

We are confident that the current situation, while challenging and uncertain, can **represent a real opportunity to reshape and relaunch the public transport sector in Italy**, which is fundamental and an enabling factor necessary for the recovery of the productive fabric of the country.

