



A new era for public transport – adapting to new passenger behaviours and expectations

An Arriva Group Insights Paper



a  company

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Foreword



Mike Cooper
Chief Executive Officer

Arriva's position as one of Europe's leading public transport companies means we have experienced first-hand, the impact of the pandemic on our societies and economies. Our sector has been particularly hard hit, but we've also adapted quickly and fulfilled a vital role.

Our ability to respond across 14 countries, which all adopted different guidelines for lockdown restrictions, different travel advice and different 'work from home' instructions, makes me extremely proud. Arriva has remained at the heart of the communities we serve and continued to provide essential services to those who have relied upon us.

Now, alongside governments and transport authorities, we look to recovery, and I know it's more important than ever that we acknowledge that aspects of our lives have changed, possibly forever. Covid gave society a chance to pause and, with that, reflect on how to achieve more balance.

The way we address changes in behaviours is essential as we look to build an approach to public transport that complements the appetite for more flexibility and more active lifestyles, while also acknowledging the need to return to workplaces and an increased desire to adopt a more 'local to home' approach to social and leisure activities.

And here lies the opportunity, not just to adapt but to be a real catalyst for change and to help societies thrive economically while also meeting carbon and environmental commitments.

Our sector has a choice – we can sit and hope for things to return to 'normal' – or we can respond to the evolved needs of passengers, build a better and more sustainable future for our communities and act as strategic partners to our transport authorities. Our ambition is to truly thrive in this new world. At the heart of this is listening!

We have commissioned new passenger trends research to listen to mobility users across six of our European markets. We share these findings to further our dialogue with passenger transport authorities in Europe, to enable closer collaboration and to ensure that public transport serves communities in a way that ensures they can continue to thrive in a post-pandemic world.



"Our sector has a choice..."

we can sit and hope for things to return to 'normal' – or we can respond to the evolved needs of passengers...

Executive summary

Covid-19 and subsequent national lockdowns across Europe had a dramatic effect on mobility habits, with public transport seeing passenger numbers drop by up to 90% at the height of the pandemic. To understand this, and what the future might hold, Arriva Group commissioned independent research to understand passengers' travel behaviours following the pandemic.

The survey was undertaken by an independent research agency and conducted across six different markets: the United Kingdom, the Netherlands, the Czech Republic, Spain, Italy and Slovenia. Public transport users were asked to indicate their current travel habits, as well as those pre-Covid, and how they expected them to evolve in the future.

Over 1,700 public transport users were surveyed across the six markets to indicate trends and viewpoints across a wide spectrum of passengers.

Across the six markets surveyed, public transport continued to serve people and communities during the pandemic, providing vital services to key workers and those who were not able to work

from home. For those who could work or study from home, Arriva found that the pandemic had provided them with the opportunity to adopt a different lifestyle, and consequently re-evaluate their travel habits. Some purchased new modes of personal transport, such as bikes or e-scooters. With the increase in working from home for those who could – a trend which looks set to stay – many have come to appreciate the increased flexibility they now have. It means many people no longer need to commute five days a week and this has changed their expectations of what their commute should look and feel like now. Tolerance for busy services has dropped and a desire to use multiple modes as part of one journey has increased.

Covid itself also had an impact on passengers and their feelings around safety on board. A perception which, despite country variations, was present across all countries.

These trends signal changes to lifestyles, with more time spent at home and therefore in local areas, with a subsequent change to travel behaviours. Yet, public transport remains highly relevant and needed

Six market quantitative & qualitative types

UK	United Kingdom
SL	Slovenia
IT	Italy
NL	Netherlands
CZ	Czech Republic
ES	Spain

1,700+ public transport users & five journey types

-  **1. Commuter**
Journey to and from place of work
-  **2. Student**
Journey to and from place of tertiary education
-  **3. Parent**
Children's journey to and from school
-  **4. Unpaid care**
Journey to provide unpaid care or support
-  **5. Leisure**
Journey to and from leisure destinations

Opportunities for public transport



- A new era for public transport
- Grasping the opportunities to realise societal and environmental goals
- Seizing opportunities by working in partnership to take new approaches

by large sections of society and will have a fundamental role in combatting climate change.

And here lies the opportunity. Post-Covid, Europe's level of urbanisation will not decrease, and our carbon commitments will not go away. Major cities will continue to attract people to jobs and leisure activities, even if some working from home patterns remain. High density of both population and infrastructure in urban areas will exacerbate already familiar challenges: environmental degradation, air pollution and congestion. These challenges can't be solved without looking at our transportation and mobility habits as a society.

There is an opportunity to shape future mobility and encourage new habits, working together with governments and transport authorities, as well as other transport operators, micro-mobility providers and the people we serve. Together we must grasp the opportunities this has brought with it, to provide mobility services fit for evolving passenger needs.

When considering the findings from our research, it is clear the sector and its partners should adopt approaches to realise these opportunities. Such approaches could range from introducing real-time crowding information and continued communication of Covid-safety measures to rebuild trust in public transport services, to introducing flexible ticketing, multi-modal transport offers and considering revising routes to fit changing lifestyles and needs. To help meet changed passenger behaviours, solutions such as demand-responsive travel, greater integration between active travel and public transport or the use of Mobility as a Service (MaaS) solutions have an important role to play with developing transport networks fit for today's and tomorrow's realities.

This paper outlines the key findings from our research and discusses potential solutions to help adapt mobility networks and services to respond to the 'new normal'. Working in partnership will be critical to create efficient, sustainable and attractive transport networks to match passengers' evolving expectations.



There is an opportunity to shape future mobility and encourage new habits...



90% drop

In passenger numbers at the height of the pandemic.



1,700+ people

Surveyed across six countries to understand travel behaviours following the pandemic.



A new era of public transport beckons



Covid has forced a lifestyle change for many people across Europe, leading to a shift in travel habits because of remote working at the beginning of the pandemic, for those who could do so.

This shift looks set to stay, with our research showing that across Europe, 61% of people expect to be travelling to work less than five days a week.

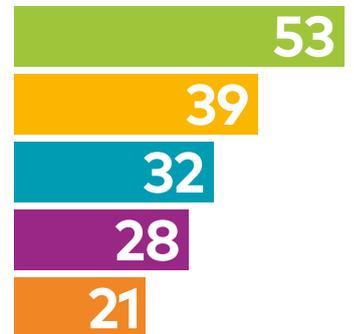
A report by the UK Confederation of British Industries further suggests that 93% of firms plan to adopt hybrid working models and only 5% expect to work entirely from an office. And across Europe, the number of Europeans who regularly worked from home has risen from 5% (before Covid) to 12.3%. As more office workers and students are transitioning to a 'hybrid' working or studying model, only commuting between 2-4 times a week, the impact on traditional commuter routes is evident.

Pre-Covid, people chose public transport because of its core attributes of good value, convenience, and reliability. While these factors are still important, passengers have also become

accustomed to the greater comfort that was experienced through less crowding. With fewer passengers and social distancing measures, people were able to enjoy more space and privacy which, in turn, created a more pleasurable on-board experience for those who continued to rely on public transport during the pandemic.

The importance of comfort, personal space and perceptions of Covid transmission has also led some consumers to try and adopt new modes of transport. Arriva's passenger trends research shows that, throughout Europe, the pandemic prompted people to turn to active mobility such as walking and cycling. This led people to re-think their mobility habits. The increased use of active travel, embraced and facilitated by cities with "pop-up" bike lanes and wider pavement allocation, is something many people have come to enjoy and would like to maintain as part of their daily lives.

What is important to public transport users? (%)



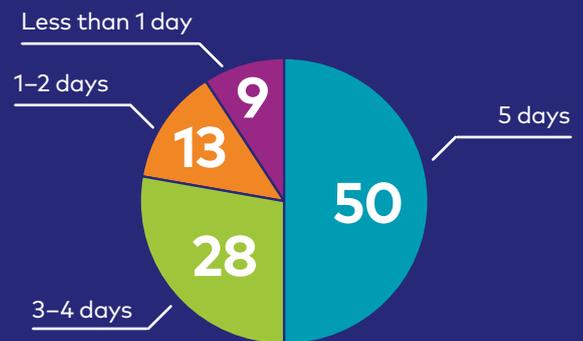
- Reliability of service
- Value for money
- Convenience
- Value for time (low wait times)
- Comfort

¹ CBI, The revolution of work, July 2021

² World Economic Forum: Covid: how many remote workers are there in different parts of Europe?, May 2021



Number of days travelled to work pre-Covid (%)



93%

Of UK firms plan to adopt hybrid working models and only 5% expect to work entirely from an office.



61%

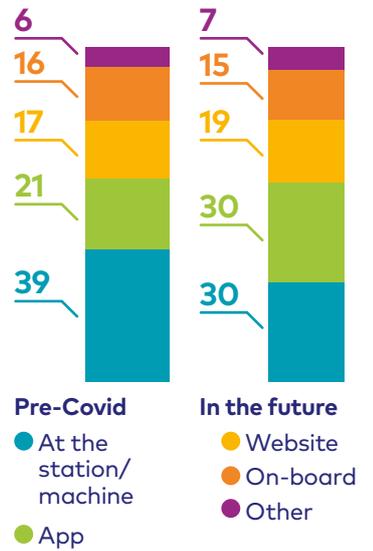
Across Europe, 61% of people expect to be travelling to work less than 5 days a week.



As citizens have discovered the joy of active travel, we are seeing some city-dwellers and those with commuting journeys of less than 30 minutes wanting to retain this as part of their journey. Those living in urban areas are more likely to combine active travel with traditional public transport services. This should be seen as an opportunity for public transport operators but also for local authorities to continue to promote interconnected mobility and further encourage healthy and sustainable mobility choices. Not only have people discovered the benefits of multi-modal journeys, but they are also increasingly using technology to plan, book and pay for their journeys and have indicated that they will be even more open to this in the future. Digital journey planning apps, emerging 'Mobility as a Service' solutions and website portals have all facilitated options for travel during the pandemic. This trend presents an opportunity for the digitalisation of ticketing and information provision to accelerate. This will help the sector accelerate change and enable multi-modal journeys more easily.

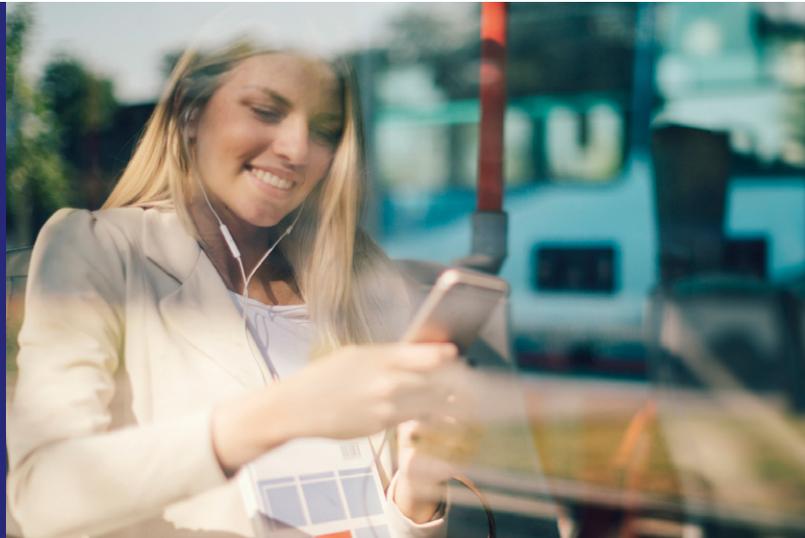
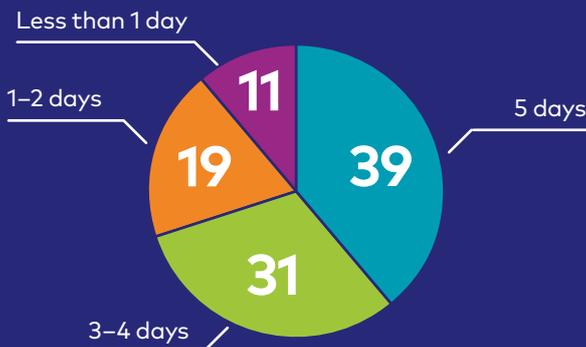
As more people return to offices, albeit in a hybrid pattern, we are also seeing an ongoing need for reassurance that public transport services are Covid-safe. Arriva's research shows that, as countries emerge from lockdown restrictions, confidence levels around Covid-safety on public transport varies country by country, but it remains a concern everywhere. In some countries, passengers were asked by governments to avoid public transport at the height of the pandemic which undermined trust in the sector. In addition, the concern of being in an enclosed space with other people has further reduced the perception of safety on public transport services. Our research shows that, in some countries, confidence in the sector is especially low – an example of this would be Italy. This lack of confidence could lead to a permanent shift away from public transport and towards a car-led recovery which is something that should be addressed.

Ticket buying preference (%)



Post pandemic, more people expect to travel to work on fewer days of the week.

Number of days expected to travel to work post-Covid (%)



Active travel



Those living in urban areas are more likely to combine active travel with traditional public transport services.

Grasping the opportunities to realise societal and environmental goals



The shift in passenger behaviour, expectations, and the realities of an increase in hybrid working and studying means that public transport is now competing with staying at home for the first time, as well as the use of other modes and the uptake of active travel. Our research showed that close to a third of people bought a car or a bike in 2020. Public transport no longer only competes against other modes, it is now also competing against the choice to not travel at all.

This does not mean that public transport has lost its relevance. Instead, these new behaviours and expectations are an opportunity to realise societal and environmental goals. Even if, based on our research and third-party data, we assume that commuter routes will be used less frequently than pre-Covid, they will still continue to be used.

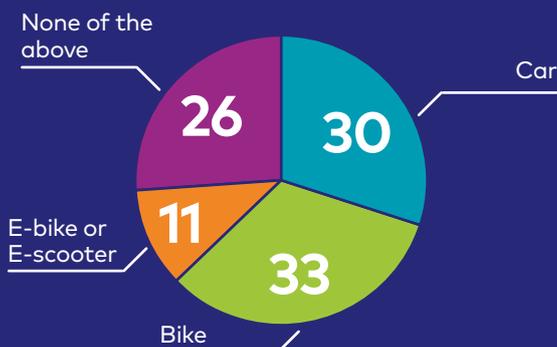
As office workers may be more inclined, and able, to base themselves at home, the need for improved local mobility connections in suburban areas may increase. For example, the after-work drink, dinner or cinema will no longer be consumed entirely in city centres, but instead we might expect to see increased consumption of these services in local neighbourhoods.

Transport networks across Europe tend to be structured to serve commuters on high-density routes, in and out of urban hubs, while in some rural and suburban areas, public transport had already been experiencing a decline³. Post-Covid, where people are likely to spend more time locally, this will mean that more people will turn to the easiest mode to get them to their destination. In all likelihood, this will be the private car.



It is more important than ever that the public transport sector meets evolving passenger expectations and becomes even more consumer-centric by embracing the change in lifestyles that has come with Covid.

Purchase of new modes of transport during the pandemic (%)



More choice

Many people purchased a new mode of transport during the pandemic to increase their modal choice.





Governments and the European Union have set climate targets and the ambition to decarbonise transport by 2050 to make it more sustainable and fit for a climate-neutral future. If governments don't encourage people to use sustainable modes, such as public transport, these targets will not be achieved. The challenges our societies are facing will not all be solved by the electric car: congestion will still be there – it will just be electric. In addition, policy makers should not ignore the fact that cars take up increasingly more space as car models become larger (electric or not) and yet, are parked 23 hours out of every 24. The valuable space taken up by private car ownership could instead be used to improve pedestrian walkways, cycle lanes or public transport routes.

Creating public transport networks that are attractive, fast, efficient, affordable, and accessible, not just in urban hubs, will provide alternatives to the car.

³Better Transport, The Future of Rural Bus Services, 2019

It is more important than ever that the public transport sector meets evolving passenger expectations and becomes even more consumer-centric by embracing the change in lifestyles that has come with Covid. At the same time, governments and local authorities must continue to support and promote the use of public transport as the climate emergency accelerates.



23 hours out of 24

Amount of hours cars are parked, taking up valuable space.



Working from home

The need for local mobility connections in suburban areas may increase.

Grasping the opportunities to realise societal and environmental goals



While it's true that passenger behaviour has changed in response to a loss of confidence and the evolving expectations around comfort and space, as well as the mix of multi-modal solutions, there remains a significant opportunity for governments, public transport authorities and public transport operators to work together and provide solutions that respond to these new needs:

- **To restore trust**, continued communication of the measures public transport operators are taking will be paramount. Our research shows that the existence of safety measures impacts passengers' decision whether to travel on public transport. In addition, governments and local authorities should further support the sector by promoting the use of public transport via marketing campaigns, reinforcing its benefits and what it brings to the wider economy, the environment and society.

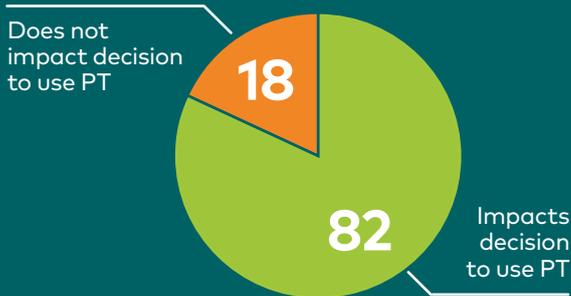
- **To address passengers' concerns regarding capacity levels**, the public transport sector could further develop availability of both real-time and predictive crowding capacity information allowing passengers to make an informed decision on which service or which mode to take and what time of day they prefer to travel.

- **To improve connectivity and make public transport more attractive, high-frequency public transport routes** should be further developed where possible. Such services, often called Bus Rapid Transit (BRT) services, run at high frequency and therefore with more capacity. This would address passengers' expectations of **less crowded** and **more reliable** transport services. Such high frequency bus routes generally deliver fast, comfortable and cost-effective services, making it attractive to passengers who will not be delayed by congestion.



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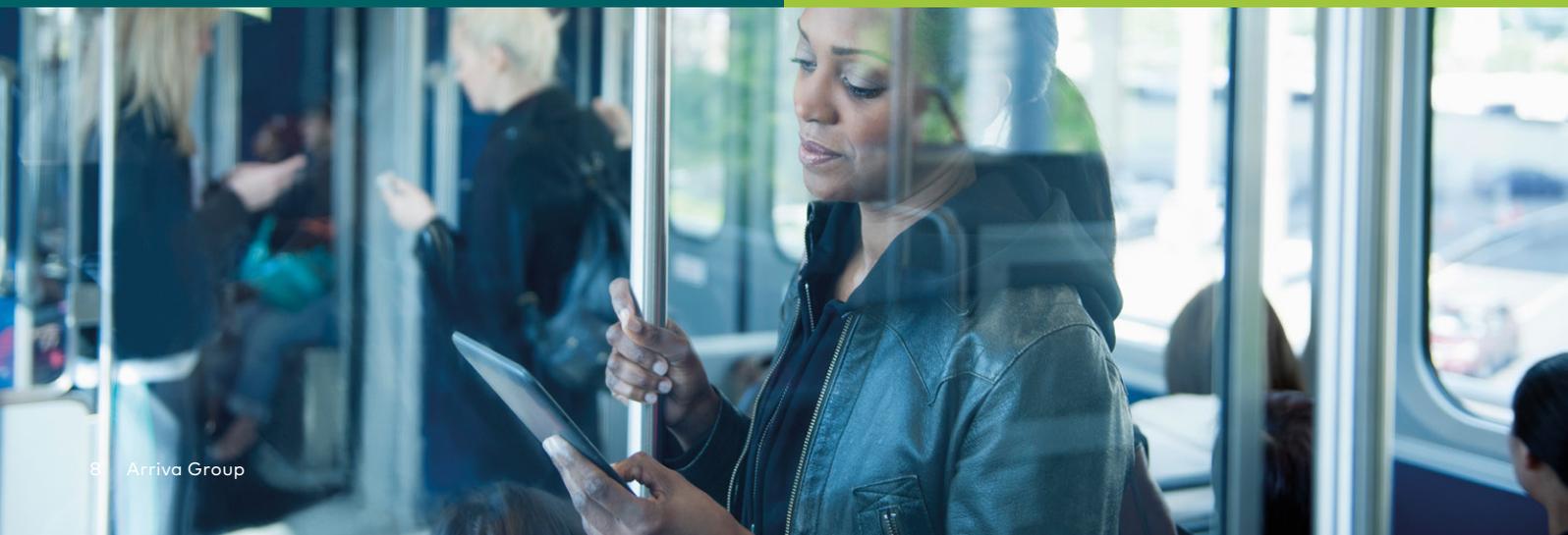
The impact of Covid safety measures on passengers' decision to travel by public transport (PT) (%)



Safety measures



Passengers are influenced in their decision to take public transport depending on whether there are safety measures in place or not.





At the same time, it encourages people to travel without a car, reducing air pollution, noise and congestion in urban centres.

- **To adapt to new hybrid working models**, the sector, together with transport authorities and governments could consider providing more **flexible ticketing**. This would be an attractive option for those who have adopted new ways of working and no longer need nor want to travel five days a week. The traditional season tickets, which cover a whole week, month or even a year, are now considered inflexible and outdated for some because they don't suit new lifestyles. The introduction of alternative ticketing, such as carnets, which would offer passengers a discount even when travelling only 2–3 times a week, instead of 5, could be more appropriate.

- **To adapt to new lifestyles**, where people spend more time in areas local to their homes, easier and more efficient journeys in local areas will be needed. Operators, transport authorities and governments should work together to improve the connectivity between modes and identify the potential for new routes. The introduction of **new routes** in suburban and rural areas has an important role. Covid has accelerated a shift in people's behaviour that was already emerging, and mobility networks were always going to need to adapt. Instead of trying to get back to the past, local authorities, governments and infrastructure providers must work in partnership with public transport and other mobility providers to create attractive local public and shared-transport networks.



Covid has accelerated the shift in people's behaviour that was already emerging.



What is Bus Rapid Transit (BRT)?

BRT is a bus transport system which delivers fast and reliable services with better capacity than a conventional bus system. It's able to do so through the provision of dedicated priority lanes, uninterrupted by traffic and congestion, and is therefore appealing to city transport authorities which can provide the capacity of an underground or metro system with a lower capital infrastructure cost.



Grasping the opportunities to realise societal and environmental goals



- **To cater for people's needs in local areas** transport authorities could consider introducing more **Demand Responsive Transport (DRT) systems**. Introducing more flexible and demand-responsive services that complement fixed timetabled bus services or rail services can be an attractive alternative to private car use. By working in partnership with governments and transport authorities to further deploy DRT services, we can achieve climate objectives by providing more options for people to travel sustainably. These services connect individuals to bus stations with more frequent services, to train stations, to places of leisure, or to other public services. Such DRT services may require funding from local transport authorities, and innovative approaches can be used which join up demand and funding to support societal goals. DRT can present a more efficient alternative to building frequency on underused bus routes thanks to their flexible nature.

- **To provide digital ticketing options**, operators and transport authorities should consider further developing and improving digital applications and websites. However, this is not to say that paper tickets, and the ability to purchase tickets at stations or machines, should now completely disappear. A proportion of the population will continue to need and want these options. However, as part of modernising, the digital offer should be maximised.

During the pandemic, we introduced new contactless payment systems on many routes at an unprecedented speed. The technology is ready and, together with the support of transport authorities, it can be rolled out across the whole public transport network.



By working in partnership with governments and transport authorities we can achieve climate objectives by providing more options for people to travel sustainably.



What is Demand-responsive Transport (DRT)?

DRT provides a flexible and efficient solution to serve low-density areas, or to complement regular lines in periods of low traffic. It is a convenient alternative to personal vehicles and helps to optimise public transport. At Arriva, we have expertise in DRT with "ArrivaClick", our flexible, on-demand minibus service which offers quick and convenient transport for multiple passengers heading in the same direction.





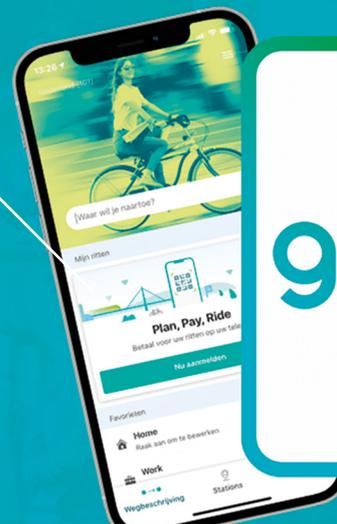
- **To provide the option for passengers to plan and make multi-modal journeys,** Mobility as a Service (MaaS) solutions could be introduced. These can help people plan, book and pay for their door-to-door journey, using different modes of transport, from public to shared transport, combined with active travel. In order to promote the development of MaaS solutions, access to key transport data across all modes is required, such as timetabling data, fare information or real-time location of a vehicle. These data systems are not widely established across all European markets, but where they are – for example in countries like the Netherlands, Arriva has been able to innovate and develop a MaaS solution. "glimble by arriva" has been developed with pan-European potential and brings together different modes and operators of transport under the umbrella of one customer-focussed planning tool.

- **To further develop multi-modal solutions,** governments should promote the use of open data. Regulated access to data and its re-use should become a reality for all mobility providers and encourage collaboration between public and private service providers. Regulation should be designed in a way that new mobility services complement traditional public transport services to help countries achieve climate targets and to help create successful and efficient multi-modal transport networks.



What is 'Mobility as a Service' (MaaS)?

MaaS solutions are digital transport service platforms which enable users to plan, book, pay for and get real-time information on a range of public and private transport options. These transport options can include public transport, shared mobility – such as e-scooters – and taxis, but also active mobility options – such as walking and cycling – as part of a door-to-door journey.



glimble
by arriva

Contactless payment



During the pandemic, we introduced new contactless payment systems on many routes at an unprecedented speed.

Seizing opportunities by taking new approaches

The disruption to lifestyles and mobility habits of individuals because of Covid offers an opportunity to influence and shift future mobility choices as people begin to travel again. By working in partnership, operators, mobility providers and transport authorities, must embrace the changed behaviour to deliver societal goals with sustainable, healthy and economically productive communities.

This means embracing active travel, digital innovation, high-frequency public transport services, flexible ticketing, and the continued enforcement of hygiene measures while Covid remains a concern. We should also rethink existing public transport networks and explore introducing new routes which were previously out of scope due to lower demand as people spent most of their time in city centres, close to their workplaces.

Introducing new routes and new and innovative services such as MaaS to improve the connectivity between modes will help to attract former passengers back to public transport. It could also help attract people who previously never considered public transport because it simply did not meet their needs.

As a sector, and together with our partners, passenger-centric change must be embraced. Today's technology enables society to become more flexible than in the past, but it will require the support and the courage of governments and transport authorities to evolve existing transport networks and create mobility networks that can adapt to new habits and expectations.



Today's technology enables society to become more flexible than in the past.



We are well placed to meet the challenges

As a public transport operator, Arriva is well placed to meet these challenges. We have pan-European multi-modal experience and expertise, and we will be working with Public Transport Authorities across Europe to deliver transport systems that meet the challenge of today's and tomorrow's world.



Conclusion

Arriva's passenger research has revealed interesting insights into the immediate future of mobility and how changes in passenger behaviours, as countries recover and re-build from Covid, present an opportunity for the public transport sector to further adapt:

- More than half of people surveyed expect to be commuting to their place of work fewer than five days a week. This means, in general, we might expect to see those who previously commuted into city centres spending more time in their local areas, where public transport networks might then need to be evolved to cater for new regional demand.
- The fear of contracting Covid is a concern across countries, but this might be related to the phase of recovery. We anticipate that continued communication and visibility of safety measures on public transport services will remain an important part of encouraging those passengers who are hesitant back to public transport – especially while Covid remains a concern. Governments and transport authorities have a role to play in supporting marketing campaigns to bring passengers to public transport, promoting the many attributes and benefits, as well as the societal and environmental factors, associated with it.
- Busy public transport services are a factor in decision making. Even when the fear of Covid reduces, we expect comfort to remain a high priority and we might see people avoiding travel on exceptionally busy commuter routes at peak times. Technology could hold the key to this – with better real-time information allowing people to make more informed choices and adapt their travel patterns to ensure more comfort can be enjoyed.
- Active travel, such as walking and cycling, has increased since the start of the pandemic and this has combined with a general enjoyment of being outdoors. We expect this positive trend to continue, especially when commuting within urban areas or for those commuting in and out of urban areas. This style of commuting is conducive to using different modes of transport within a single journey, so enabling the easy use of multiple modes could be highly beneficial.

When considering these findings and our conclusions, it's clear that the use of MaaS (Mobility as a Service) digital solutions, DRT (demand-responsive travel), real-time crowding information, flexible ticketing and greater integration between active travel and public transport, as well as having the right suburban, rural and urban connectivity, will all be critical components of future mobility. These are initiatives that will encourage people to use public transport more frequently in their daily lives and this, in turn, will play a significant role in the decarbonisation of the transport sector, supporting climate objectives.

Government commitments on topics like decarbonisation must translate into funding so that transport authorities are empowered to work more strategically with operators to deliver. Push/pull incentives and levers to promote faster change will be needed. This requires joined-up, big picture thinking, collaboration, innovation, and investment but the societal rewards are compelling, and the opportunities must not be missed. Taking steps to rethink Europe's transport networks requires courage from transport authorities, government and operators, but now is the time.

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