



bai communications

Connectivity outlook report 2021

Smarter transport,
smarter communities



Connected public transport plays a key role in moving cities toward a smarter and more sustainable future, especially with an increasing number of citizens expecting to stay in touch and be productive on the move.



COVID-19 intensified the need for connectivity - to keep people in contact during lockdowns and to support explosive growth in remote working and learning. But the pandemic also raised public health and cleanliness concerns that transport authorities must keep in mind as they seek to increase ridership in the future.

The third annual connectivity outlook report highlights what passengers expect from public transport systems, what they value, and what affects their transport-related decisions, based on a survey of more than 2,500 public transport passengers in New York, Sydney, Toronto, Hong Kong and London.

New in 2021 is a richer set of transport user perspectives, going beyond rail to include other forms of public transport including subways, light rail, buses and ferries.

Three clear takeaways emerged:



Safety and cleanliness

Safety and cleanliness are the top expectations in the wake of COVID-19. Investments in this area are critical to ensure the health and well-being of passengers, and providing greater confidence as they return to more regular use.



Connectivity and technology

Passengers want consistent connectivity and **technology to shape and enhance their transport experience**. These are no longer a 'nice-to-have' for public transport systems post-pandemic.



Communications infrastructure

Transport users recognise the crucial role of transport networks as an enabler of connectivity across cities and **support government spending on advanced communications infrastructure**, with a focus on better infrastructure and platforms bolstered by data, Internet of Things (IoT) and Artificial Intelligence (AI).

Executive summary

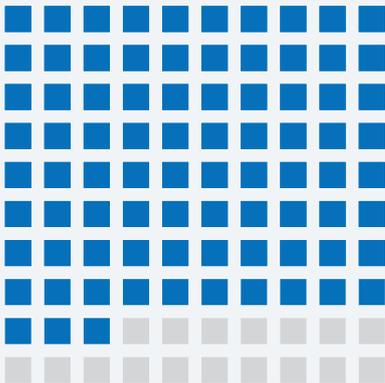
This year's connectivity outlook report surveyed public transport passengers in five major cities around the world — New York, Sydney, Toronto, Hong Kong and London — to understand the evolving public expectations of transport systems. The 2021 survey results reveal that safety and cleanliness are of paramount importance, that passengers want technology to make their journeys more connected, comfortable and convenient, and that they almost universally support government or city spending on communications infrastructure.



What public transport users want in 2021

83%

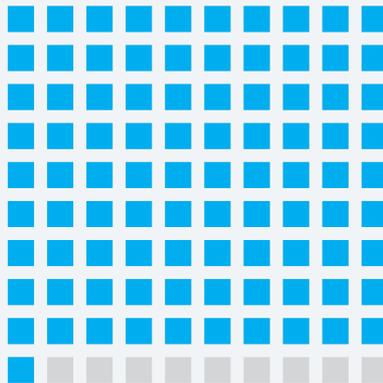
expect transport systems to be safe or clean.



Connectivity can help by supporting rigorous cleaning protocols and a range of safety-monitoring and alert applications.

91%

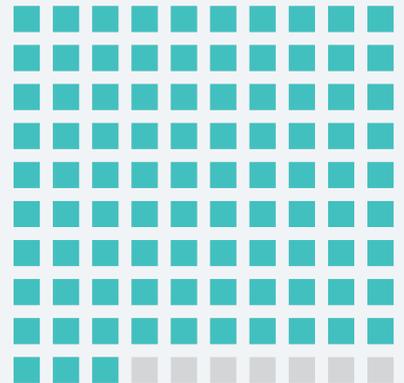
believe all world-class cities should have seamless mobile coverage above and below ground.



Coverage enables passengers to stay up to date on their travel conditions, get work done and keep in touch with loved ones.

93%

are in favour of government funding for wireless and fibre networks.



Transport authorities can work with governments and other partners to fuel innovation and develop advanced infrastructure.



1. Safety is a post-pandemic priority

As the world emerges from the COVID-19 pandemic, the expectation for transport authorities to provide a safer and cleaner experience has only increased. Authorities need to meet these expectations by using connected systems to monitor ridership patterns, identify unsafe areas or overcrowding and act to resolve these issues quickly.

Beyond cleaner and safer networks, there is a clear preference for increasing operational efficiency across transport systems, using data analytics, IoT and AI. Most public transport users say that they would feel safer if they knew capacity and availability of seating were being controlled by a central hub to ensure compliance with COVID-19 distancing guidelines.



74%

rank safety as their top priority for public transport networks.

2. It's all about the experience

2021's results show a strengthening in the demand for a smarter and more connected travel experience. Connectivity was a 'nice to have' pre-pandemic, but most public transport users now expect coverage on their mobile devices as the minimum to work, to stay connected with family and friends, or to stream the latest episode of their favourite shows. This connected experience is not just about staying

social or being productive, it's also about facilitating a faster and more efficient trip through the collection and use of passenger data. Transport authorities should leverage data and AI to facilitate mobile applications for travellers with real-time, actionable crowd information, contactless bookings or payments, and personalised alerts which inform them of issues or delays along their journey.



95%

believe they would benefit if public transport networks developed using connectivity, data and AI so they could have better services, and enjoy the journey more.

3. Citizens support spending on connectivity

The 2021 survey responses reveal growing passenger awareness that connected infrastructure combined with smart, data-driven systems can improve their public transport experience. Transport authorities need to meet this expectation by embracing 5G wireless, IoT, AI, edge computing and other advanced technologies to enhance their services.

This year's findings also underscore the importance of transport authorities working with cities, governments and other partners to establish a connectivity infrastructure that supports a safer, more enjoyable public transport experience and lays the foundation for smart, sustainable communities.



92%

think the government should consider how networks and digital connectivity can redesign public spaces to make them safer and more accessible.

Creating new opportunities to improve customer experience and operational efficiency by sharing information.

Definition:

In our survey, **'public transport user'** was defined as 'a respondent who has used any form of public transport in the city they live in the past three months'. All respondents are public transport users or a subset of public transport users.

1. Safety is a post-pandemic priority

Public transport users put a premium on safe, clean travel

With the COVID-19 pandemic raising health concerns about sanitisation and overcrowding, it's no surprise safety remains a top priority for public transport passengers or that, for the first time, cleanliness outranks the still highly rated priorities of reliability and timeliness in the list of what passengers care about most.



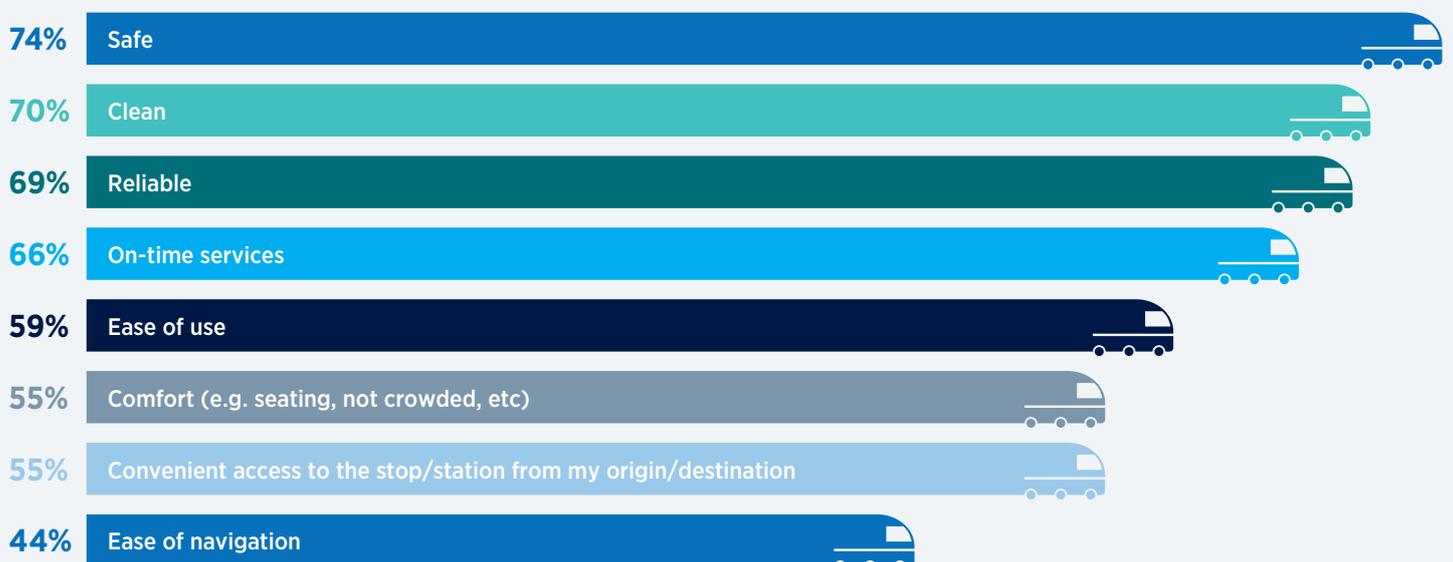
Over 40%

increased their use of public transport because specific safety or public health technologies were in place.

As people return to public transport, authorities need to meet these expectations by using connected systems to monitor ridership patterns, identify unsafe areas or overcrowding and act to resolve these issues with speed.

They also need to continue to invest in mobile applications that notify passengers of developments on their routes in real-time.

Figure 1. Safety, cleanliness and reliability rank highest among public transport user expectations



Half of respondents would use public transport more if it were safer.

Safety is good for business

Having the right technologies in place to manage the safety and health of passengers will help increase public transport use as cities emerge from lockdowns. Around half (51%) of respondents say they would use public transport more if it were safer, a significant jump from 42% in 2020.

Approximately one-third say they would encourage their friends and family to use public transport more (36%), be more willing to travel alone (34%) and be willing to work more or different hours (33%) if the system were safer. Nearly all users would like to see specific safety features in their public transport networks, such as improved connectivity (68%) and video surveillance (52%).

The 2021 survey was conducted as many cities were reopening from pandemic lockdowns and transport authorities were adapting to the new COVID-19 reality. This could account for why many users (43%) say they take public transport more often specifically because of safety or public health technologies, including surveillance, communication and COVID-19 contact tracing (Table 1).

This is up 11 percentage points from 2020, with the highest jump (17 percentage points) in Sydney. As passengers become used to these types of measures, they will expect transport authorities to maintain them as critical components of public health and safety.

Beyond cleaner and safer networks, there is a clear preference for increasing operational efficiency across transport systems, using IoT, AI, and data analytics. 90% of public transport users said that they would feel safer if they knew that capacity and availability of seating were being controlled by a central hub to ensure compliance with COVID-19 distancing guidelines.

Meeting those expectations depends in part on having a communications infrastructure that can support applications for contact tracing, vehicle capacity tracking, cleaning status monitoring and more.

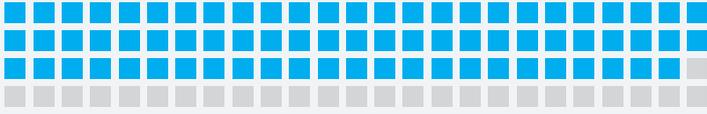
Table 1. Health and safety technologies have changed nearly half of respondents' transport use

Which of these technologies have increased or changed your use of public transport?	New York	Sydney	Toronto	Hong Kong	London	Overall ¹
Real-time information on public transportation	58%	50%	49%	51%	53%	52%
Contactless payment systems	51%	55%	46%	52%	55%	52%
Route-planning apps	50%	53%	49%	41%	54%	49%
Technology that improves safety and public health	46%	50%	31%	50%	36%	43%
Technology that reduces the cost of transportation	45%	44%	29%	46%	39%	41%
Transportation-booking apps	38%	37%	36%	34%	37%	36%
Technology that improves efficiency	34%	35%	24%	43%	27%	33%
None	6%	8%	8%	2%	11%	7%

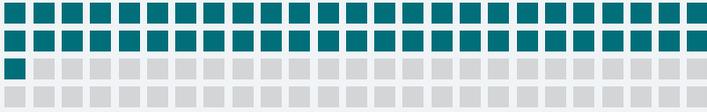
1. Overall percentages calculated as an average of all five city percentages.

Safety reigns supreme

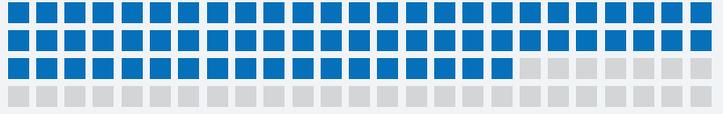
74% of passengers expect the public transport system to be safe



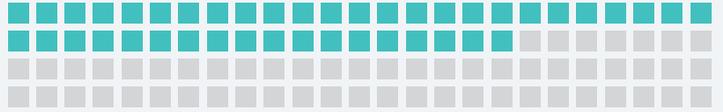
51% of passengers would take public transport more if it were safer



68% of passengers would like to see connectivity-related safety features in the public transport system



43% of passengers are taking public transport more often thanks to safety and public health technologies



A mix of safety features are in demand

To meet post-pandemic demands for smart features across transport networks, authorities need to invest in a range of both back-end and passenger-facing features.

As passengers return to public transport, the increased standards for cleanliness and safety will need to be matched with technology that supports vehicle or station management and updates passengers on risks or hazards along their journey. This is especially critical as, for the first time, cleanliness has surpassed timeliness and reliability as a priority expectation for public transport users (although both are still highly rated as top priorities).

A large majority (87%) of public transport users say they would feel safer with live CCTV streams from each vehicle cabin to a transport control centre — slightly higher than in 2020 and highest among those aged 60 and over (95%).

Four out of five transport users say they would use an app alerting them to environmental conditions along their route, up 9 percentage points from 2020. Current information about station maintenance or hazards is an expectation for 40% of passengers, and 43% would like to see sensors to control crowding.

Many users also want the connectivity infrastructure to support transport authorities and first responders with real-time information and reliable connectivity during emergencies.

Forty-four percent (44%) think sensors and displays to inform staff of issues, faults, accidents, or overcrowding should be a top-three priority for transport authorities; and 34% rank sensors to coordinate emergency services and inform drivers of medical incidents in the top three.

Transport authorities can deliver these kinds of services with a distributed antenna system (DAS) network architecture designed to support a wide range of sensors and other connected devices.

Different cities, different priorities

Public transport users show city-specific preferences when it comes to safety and connectivity:

- **75% in New York** want to see connectivity-related safety features in public transport — more than any other city.
- **50% in Sydney and Hong Kong** have increased their use of public transport because of security-improving and public health technologies — the highest proportions of all cities.
- **57% in Toronto** are interested in connectivity-related safety features — a decrease of 9 percentage points from 2020 and at odds with the general trend of growing interest in other cities.





Cleanliness is more important than ever

Considering COVID-19, this year's study looked more closely at users' thoughts about how public transport systems can address public health concerns.

As public transport use returns to a near-normal level, new connected technology needs to be adopted to support vehicle or station cleanliness and to keep passengers informed.

One-third (34%) overall value regular cleaning and crowd control enough that they would pay more to ensure them.

Nearly half of all passengers (44%) would be more likely to use the transport system if it were sanitised and cleaned regularly throughout the day, with the highest proportion in New York at 52% (Figure 2).

Crowding is also a safety factor on passengers' minds: slightly more than half (51%) would be more comfortable using public transport if it were less crowded, with the highest proportion in London at 58%.

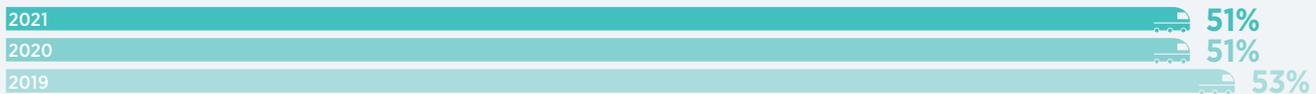
With the right network, these solutions can be implemented throughout the public transport system, offering a safer and more comfortable ride for users.

Figure 2. Half of passengers would use public transport more with better public health protections

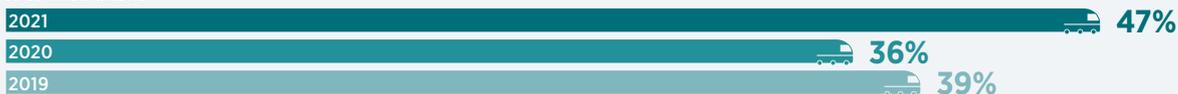
If it was more cost effective



If it was less crowded



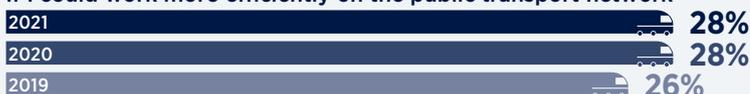
If it was safer



If it meant I could use my commute productively



If I could work more efficiently on the public transport network*



2. It's all about the experience

Public transport users want better technologies that enhance their trips

In today's always-on world, people expect to connect through their devices wherever they are and without exception. Most public transport users believe world-class cities should have seamless mobile coverage above and below ground. Transport authorities can deliver that connectivity and go the extra mile with connected applications and services that enhance the travel experience.

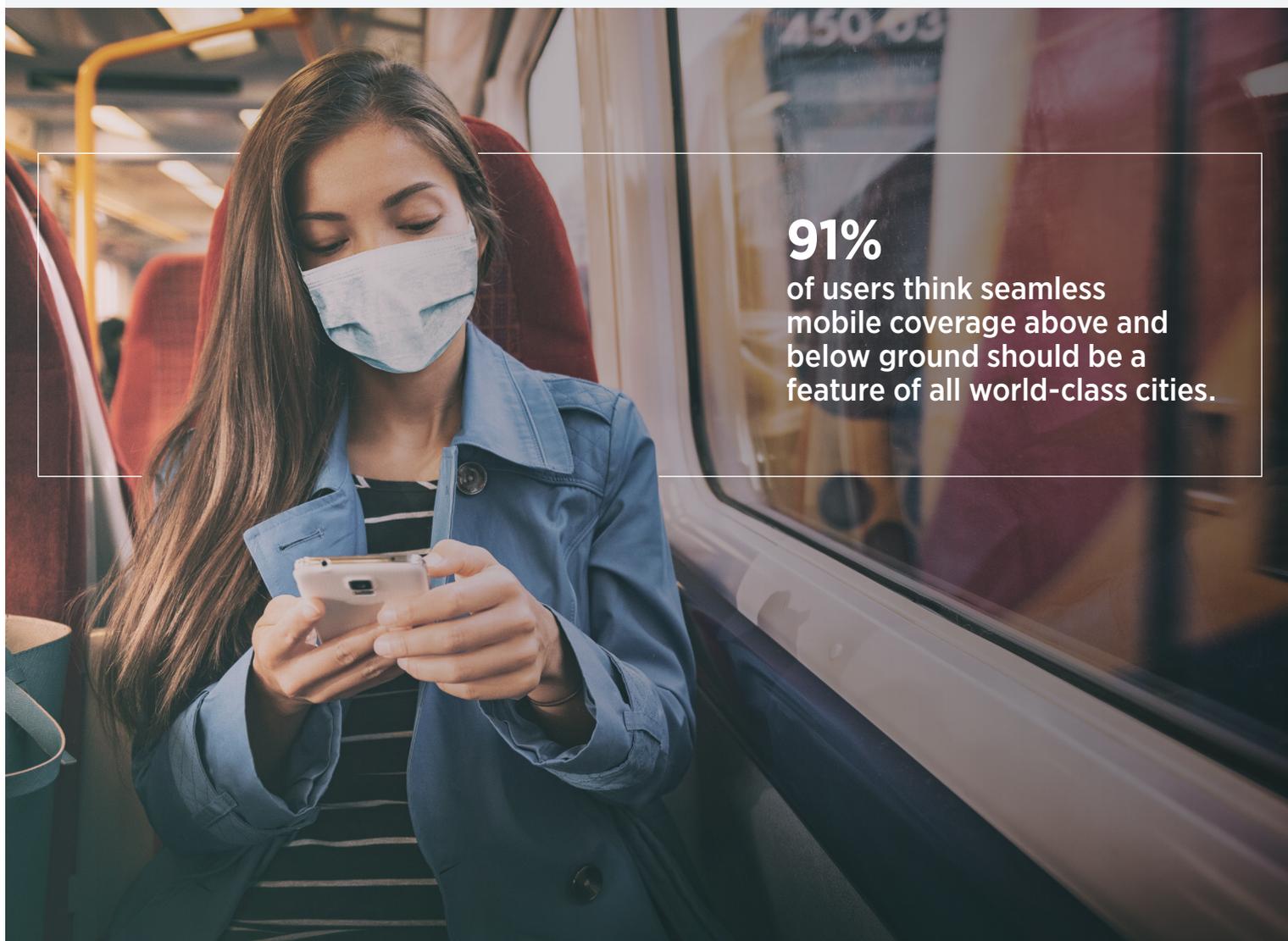
Most public transport users expect coverage on their mobile devices as the minimum. They expect to be able to use their mobile devices how they need them, when they need them - to work, to stay connected with family and friends or to stream the latest episode of their favourite shows.

Ninety-one percent (91%) of users surveyed agreed that seamless mobile coverage above and below ground should be a feature of a world-class city (though the number of people in all surveyed cities who said they expected uninterrupted cell phone service across the transport network has dropped by approximately 13 percentage points since 2020).

This connected experience is not just about staying connected socially or being productive. It also needs to facilitate a faster and more efficient journey through the collection and use of traveller data. To provide a positive change to passenger experience, transparency and interactivity are key.

This year's survey overwhelmingly showed that passengers are comfortable having their data collected, but the use of the data needs to be clear and directly related to how it can improve their travel on their normal routes.

81%
are comfortable with their data being used to predict travel patterns to provide them with a personalised transport service.

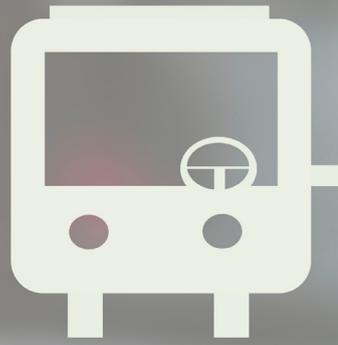


91%
of users think seamless mobile coverage above and below ground should be a feature of all world-class cities.

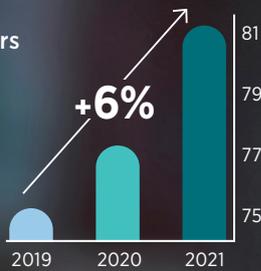
Availability of connectivity impacts opinion of mobile carriers

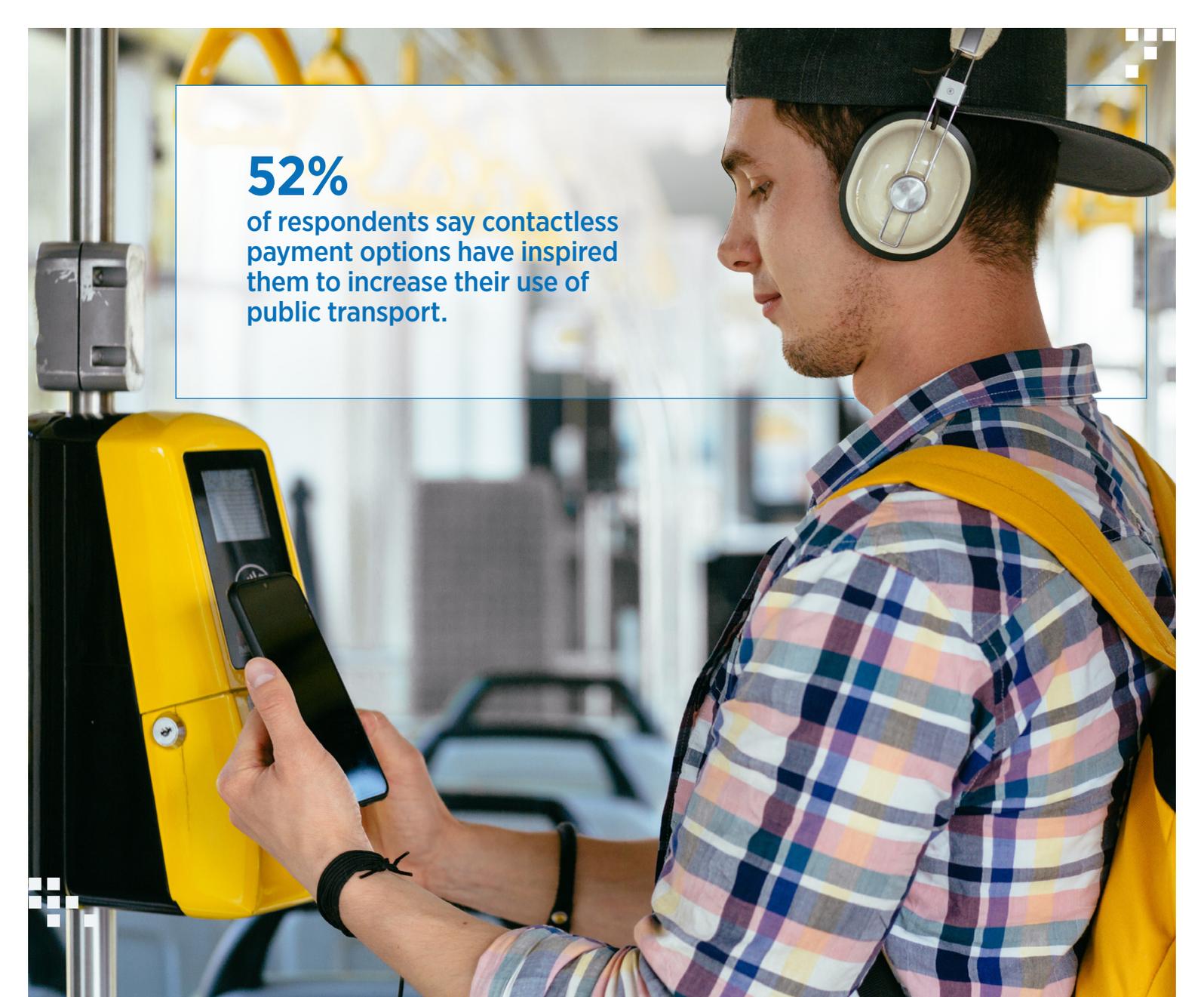
83%

of transport users say they would think less of a mobile carrier that couldn't deliver high-quality service across transport networks.



The number of people who would consider switching mobile carriers for better service on public transport networks has gone up by 6 percentage points every year since 2019, reaching 81% in 2021.





52%

of respondents say contactless payment options have inspired them to increase their use of public transport.

A better transport experience on demand

Technology enabled by ubiquitous connectivity can improve the public transport experience in two ways: by making the journey itself more pleasant and by enabling connected activities along the way.

Technology is also taking on a growing role in public transport: the percentage of people who say no technological offering could convince them to use public transport has dropped to just 2%.

Aside from investing in infrastructure to maintain connectivity, this year's survey shows that focusing on interactive passenger experiences via their mobile devices is crucial. There is clear demand from passengers for real-time, actionable crowd information, contactless payment, and personalised alerts.

This is a rich opportunity for authorities, as great mobile engagement increases passenger touch points and enables greater data collection to improve services.

This is especially true given that this year's results show passengers are increasingly comfortable with their data being used to improve public transport systems and offer personalised service, with 91% comfortable with receiving tailored alerts of issues or delays along their normal routes.

A smoother journey

Having up-to-date information on delays or better connections delivered directly to mobile devices remains users' top technological priority in 2021. With 50% ranking it in the top three (of eight), and 25% ranking it as number one.

Passengers also want technology to make booking and paying for public transport easier, and some will pay more for these features. More than half of respondents (52%) say contactless payment options have already inspired them to increase their use of public transport.

This is a jump of 13 percentage points from 2020, amounting to an additional one in every eight people. More than a quarter (27%) say they would pay more for public transport if they could use a mobile ticketing app.

A more connected journey

As shown in Figure 3, nearly half (49%) of those surveyed say Wi-Fi coverage would make them more likely to use public transport.

In all surveyed cities, at least 60% of users say they would take public transport more often if they had access to technology (such as real-time information) that improved their transit connections.

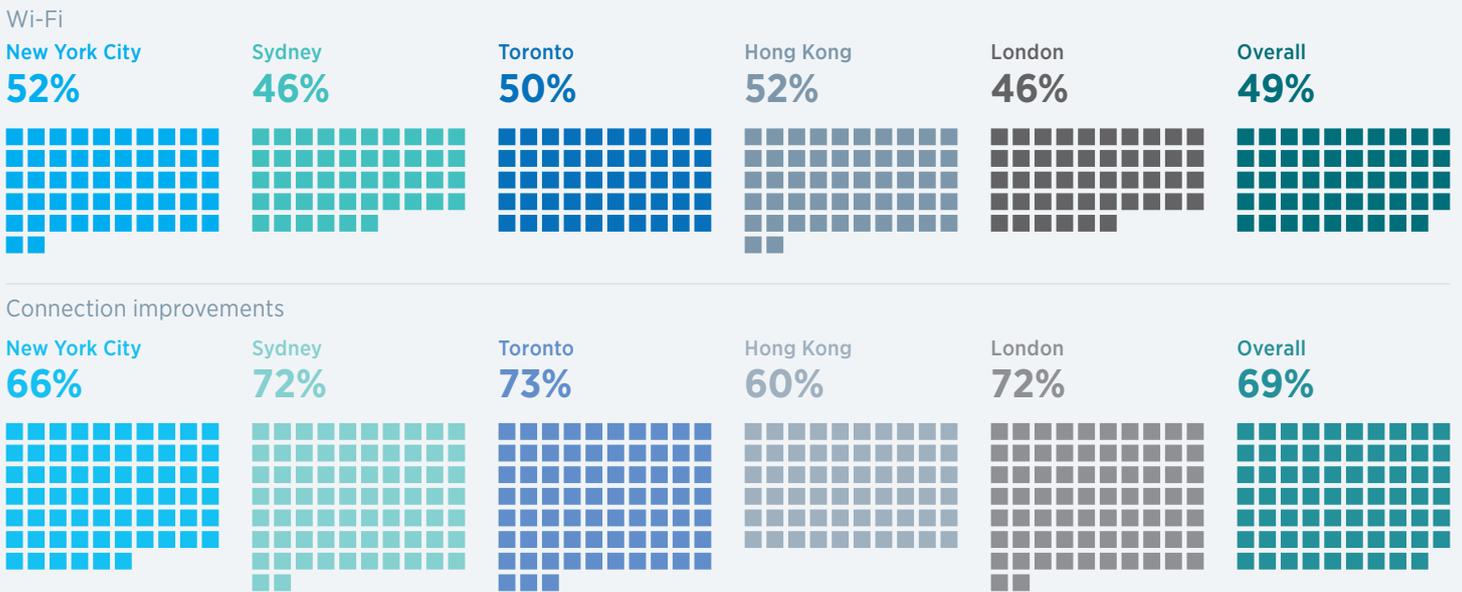
This number is highest in Toronto, where 73% of users say they would use public transport more if connection-improving technology were available.

Some passengers say they would pay more for mobile/data connectivity: 53% in Hong Kong, 52% in New York and 48% in Sydney.

In Toronto, 41% would pay for high-speed internet throughout their journey, and in London passengers would be most likely to pay for more reliable service times (41%).

Many people would like to make better use of their travel time. Around three-quarters of working respondents say they would use public transport more often to get to meetings if they had fast, reliable connectivity so they could work on documents and upload them to the cloud en route.

Figure 3. Respondents would take public transport more if Wi-Fi and connections were improved

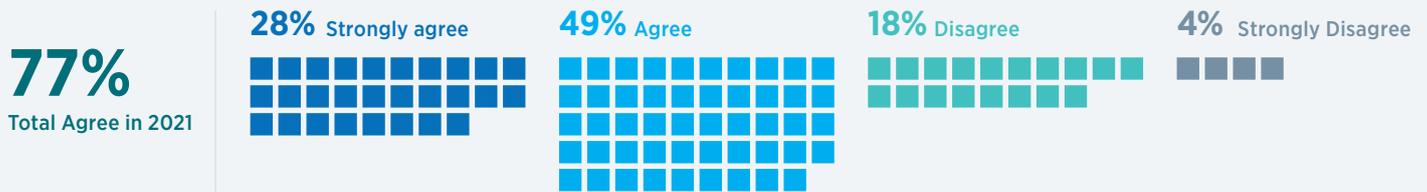


Around three-quarters of working respondents would use public transport more often if they had fast, reliable connectivity to work and access the cloud en route.

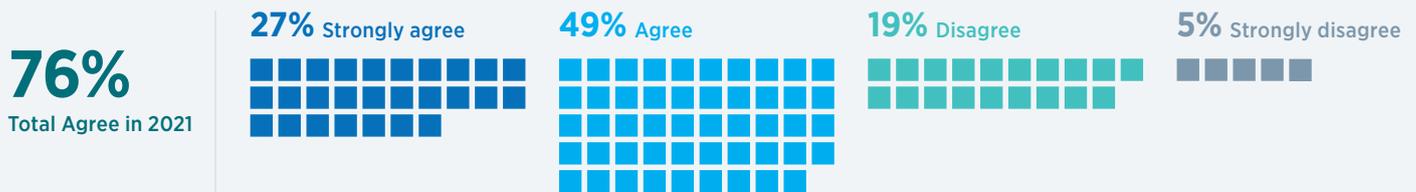


Figure 4. Passengers who would use public transport to get to meetings more if fast and reliable connectivity...

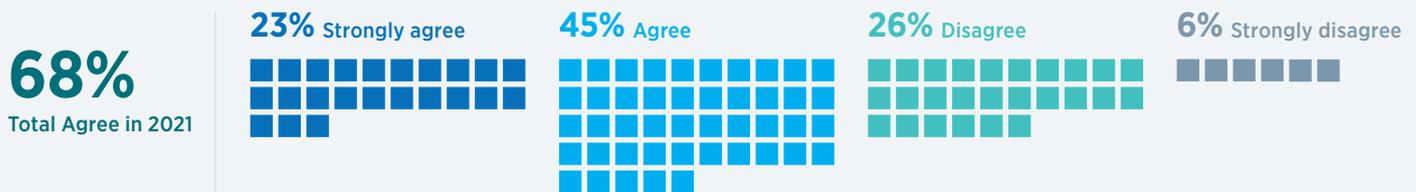
...would let me work on documents on the journey



...allowed me to upload work to the cloud during the journey



...allowed video communication with your team on the way



Almost 70% of all working transport users (and even more among those aged 18 to 39) want sufficiently high-quality connectivity to take video calls with their teams while in transit.

Users who rely primarily on other modes of transportation (like cars or taxis) for commuting are especially likely to say they would use public transport more if they had access to video communication with their teams.

Across all five cities, half or more of all transport users say they would consider living farther away from work if they could be more productive while commuting, and around three-quarters believe employees should be paid for work done while commuting.

Most passengers (81%) are comfortable using public Wi-Fi or mobile networks on the train, subway, metro or bus to do important work tasks, and almost two-thirds are comfortable making a business call on a train (65%) or bus (62%).

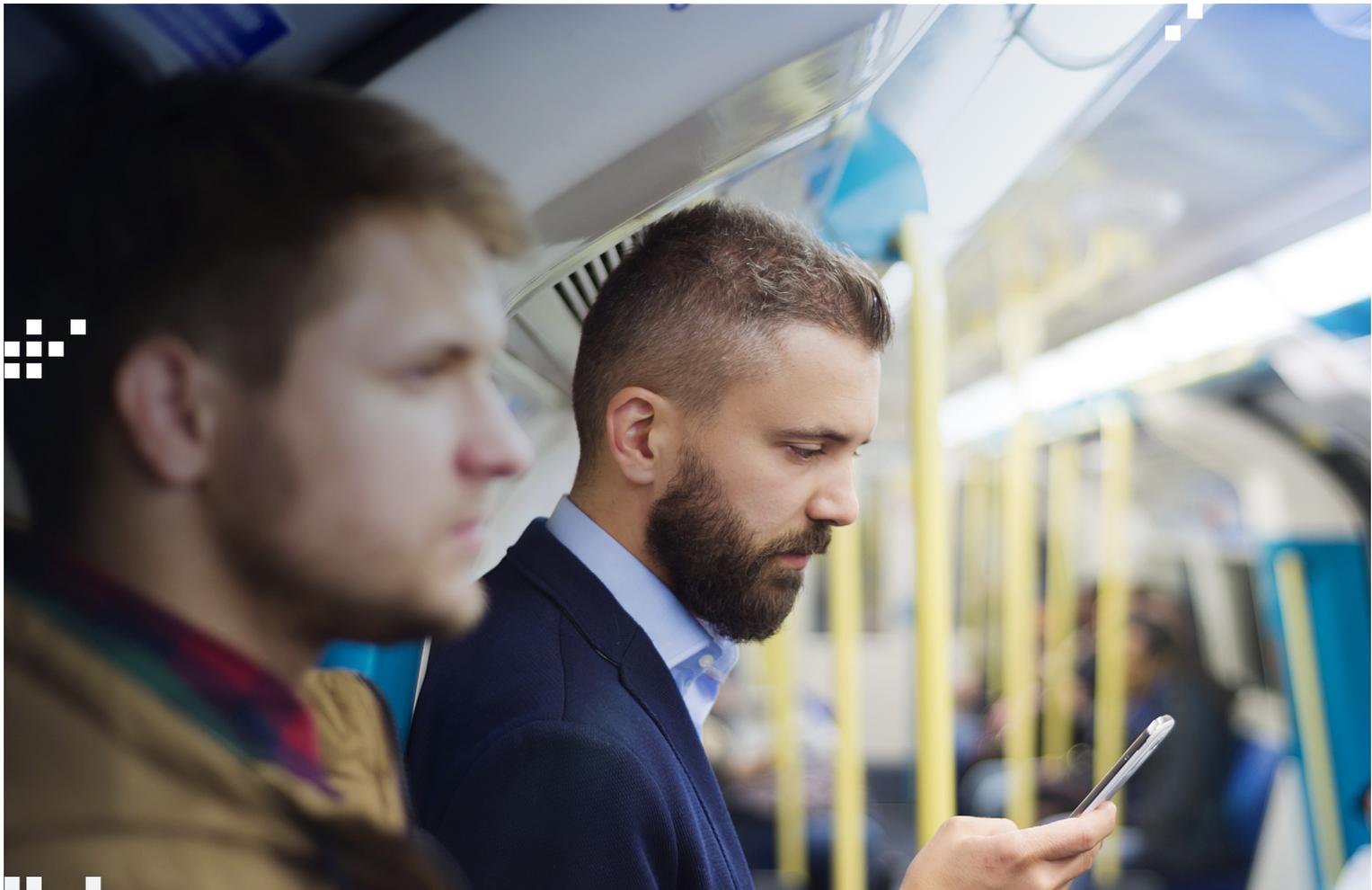
These figures have held steady over the last three years but vary considerably by age. While 89% of passengers aged 25 to 39 are prepared to do business over networks available on public transport, only 55% of those over 60 are comfortable doing so.

As workplaces transition back into the office, continuously connected travel will be critical to attracting passengers back to public transport systems. Respondents who commute for work want to make better use of their time in transport; around

three-quarters say they would use public transport more if they could work on cloud-based documents during travel.

Productivity gains are just one factor supported by consistent coverage, but this year's results also support greater demand for video services that require the low-latency and high-capacity connectivity 5G provides.

Overwhelmingly, responses from people living in major cities around the world show that public transport users want to stay connected wherever they travel. Transport authorities need to develop their services to meet these demands.



Top technologies for transport users

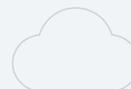
Passengers want apps and technologies that will make their trips better.



Safety apps

51%

want apps that would alert them to delays, and 33% want to be able to book onward travel while in transit to reduce wait times, especially at night



High-quality Wi-Fi and connectivity

49%

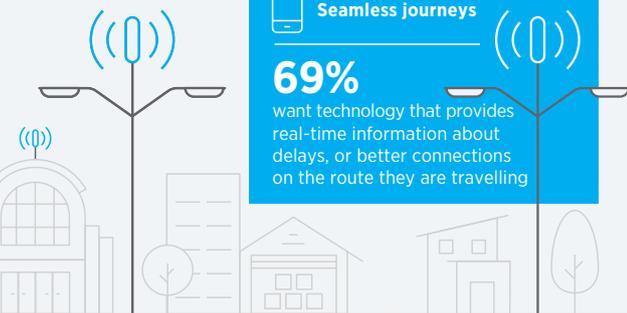
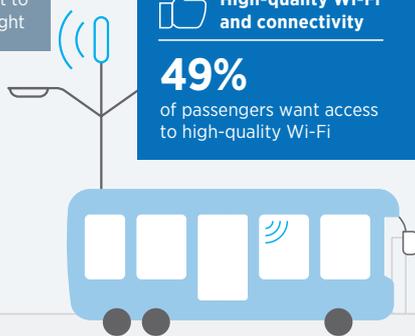
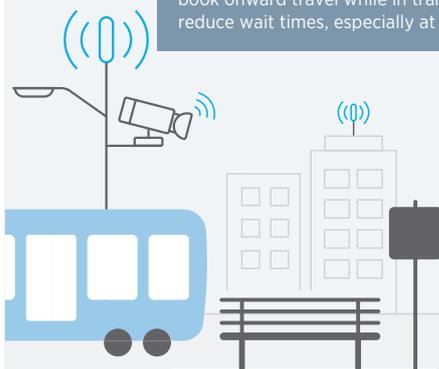
of passengers want access to high-quality Wi-Fi



Seamless journeys

69%

want technology that provides real-time information about delays, or better connections on the route they are travelling



Real-time transport information

91%

are comfortable with tailored notifications of key information along their route



Travel planning apps

49%

want apps that make planning routes easier



Contactless payment

52%

say cashless ways to pay would increase their use of public transport



Improving transport service with user data

Figure 5 shows that 83% of respondents to this year's survey say they are at least somewhat comfortable with their anonymised data being used to improve public transport systems.

Eighty-one percent (81%) say they're comfortable with the same to improve transportation networks overall, including the design of improved roads and bike paths.

These numbers are highest amongst full-time workers, from those who are employed or studying, and lowest amongst those passengers 60 years or older out of any age group.

People are comfortable with having their data used to help provide them with personalised transport service — up by six percentage points in the past year to reach 81% in 2021.

This comfort is higher among men (85%) than women (78%), and among passengers in Hong Kong compared to any other city surveyed, with 87% somewhat comfortable receiving personalised service based on their predicted travel patterns.

Ninety-one percent (91%) of respondents are comfortable with their data being used to deliver tailored alerts of issues or delays along their normal route. This has remained stable since 2020, except among those

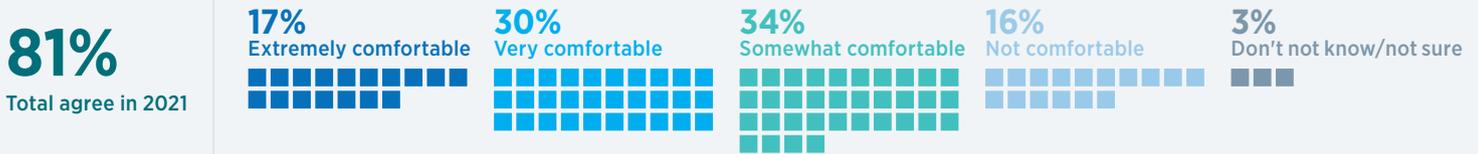
aged 60 and over, where comfort with this option has dropped by 8 percentage points to 81%.

With ever-expanding connectivity, transport authorities have access to a wealth of data points they can use to improve their services. These include individual and aggregated anonymous passenger data — the use of which is becoming more acceptable all the time — as well as data related to their own assets.

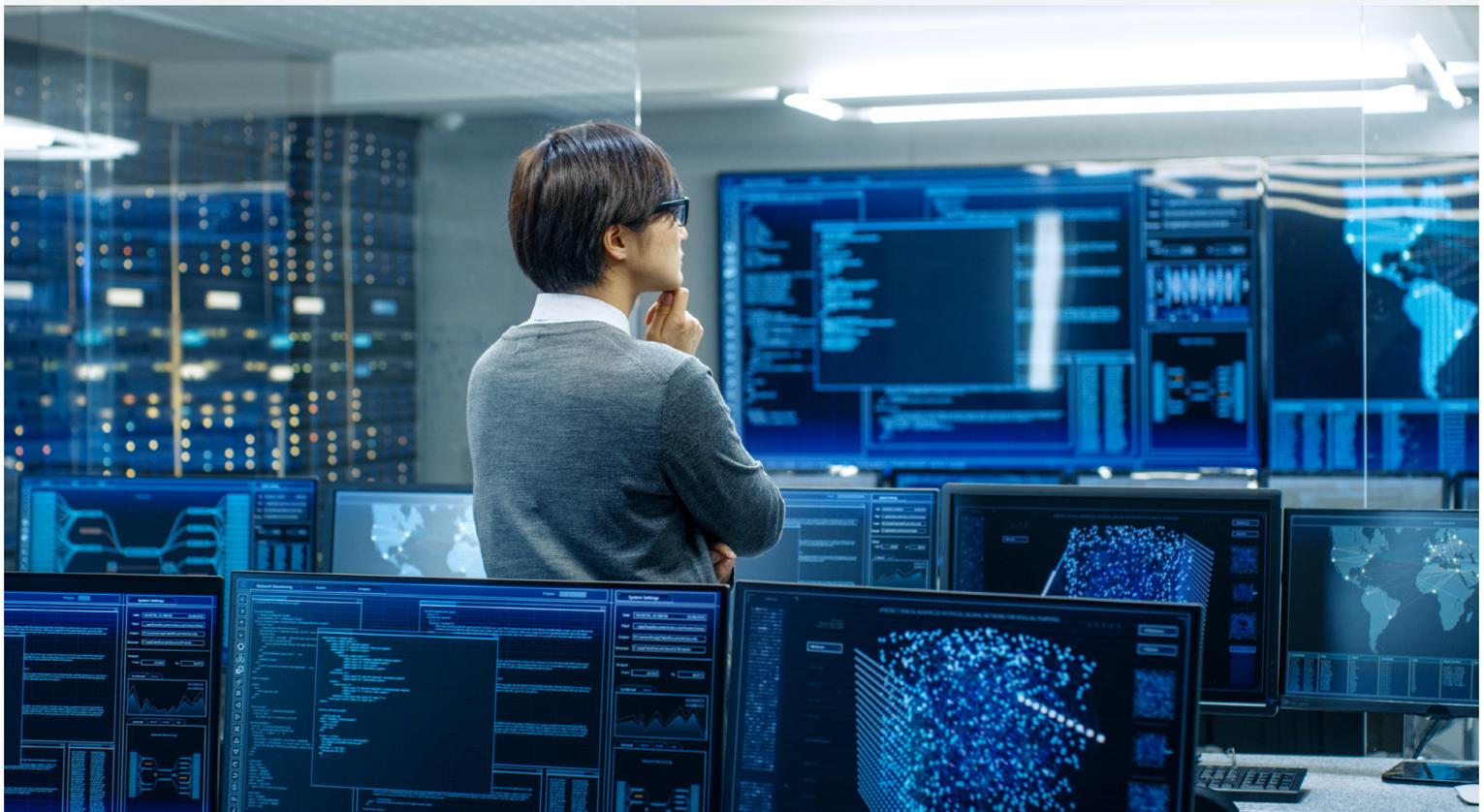
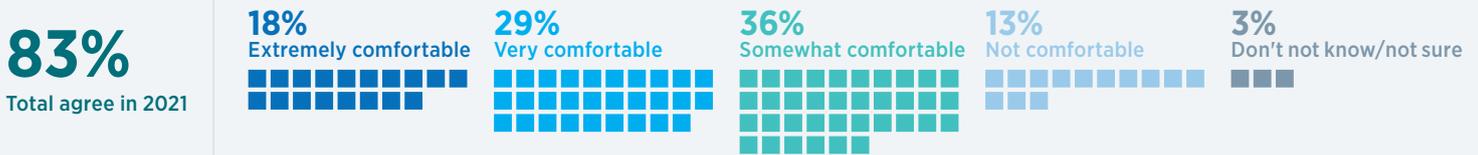
For example, connected vehicles can become part of the IoT ecosystem, feeding on data that can be combined with user data to deliver personalised travel plans and delay alerts.

Figure 5. Most users are comfortable with their data being used to improve the public transport system

Your anonymised data being used to aid city planners and transport authorities in the design of new roads or bike paths



Your anonymised data being used to improve transport systems



How you can use my data...

What transport users are comfortable with

>80%

are comfortable with having **their anonymised data used to improve public transport systems**

81%

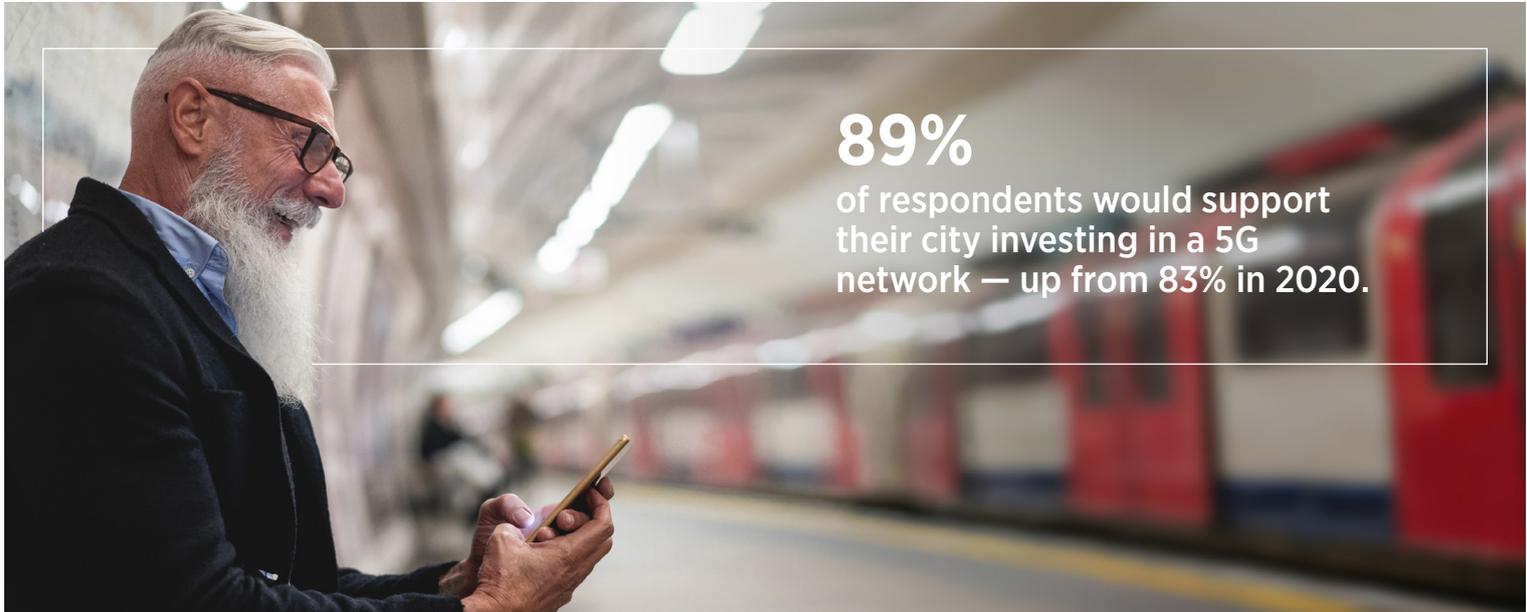
are comfortable with having their data used **to predict their travel patterns and provide personalised transport service**

91%

are comfortable with having their data used **to deliver tailored alerts of issues or delays along their normal routes**

Transport authorities can use this anonymous data to streamline operations and deliver an improved public transport experience.





89%
of respondents would support their city investing in a 5G network — up from 83% in 2020.

3. Citizens support spending on connectivity

Public transport users want to see governments build out advanced infrastructure

The expectations public transport users bring to the transport experience exists in the wider context of their connected lives as increasingly digital citizens. Connectivity demands extend beyond public transport to other public spaces and passengers are aware of the broad benefits of communications infrastructure and support government spending toward improvements.

The need for transport authorities to invest in connected infrastructure is about more than improving passenger experience. It's also about how that infrastructure can enable connectivity within the wider community. Particularly given the high number of survey respondents who believe seamless mobile coverage is a key element of a world-class city.

Nearly all public transport users (93%) would support government authorities investing in new and reliable wireless and fibre networks. Most (95%) believe network evolution using connectivity, data and AI could deliver better services.

Invited to choose many options, survey respondents say they expect this evolution to deliver benefits that include feeling happy and relaxed on arrival, enjoying more personal time, and maintaining better connections with loved ones (see Figure 6).

Most respondents (89%) would also support their city investing in a 5G network, up from 83% in 2020.

The numbers are highest among light rail users (93%), but those who combine public transport with travel by car, walking and

cycling also show high levels of support for a city-funded 5G network (90%, 90% and 91%, respectively).

Passengers in Toronto showed the highest change in 5G support over the last year, with an increase of 11 percentage points over 2020.

Figure 6. Passengers anticipate many benefits to an evolved transport system

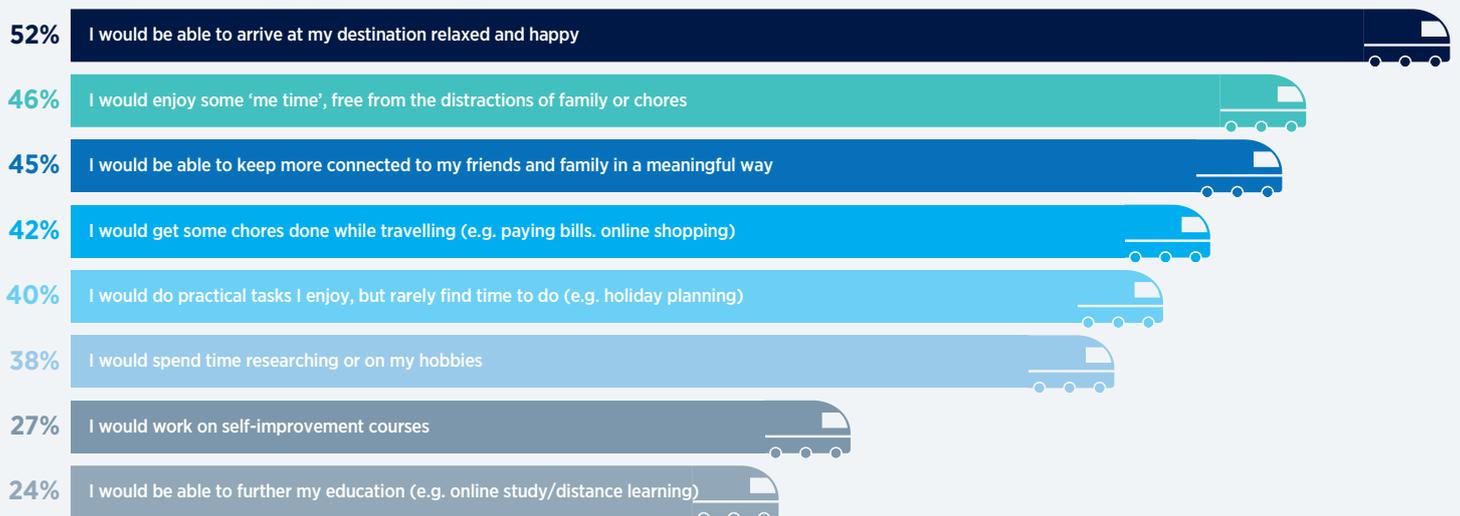
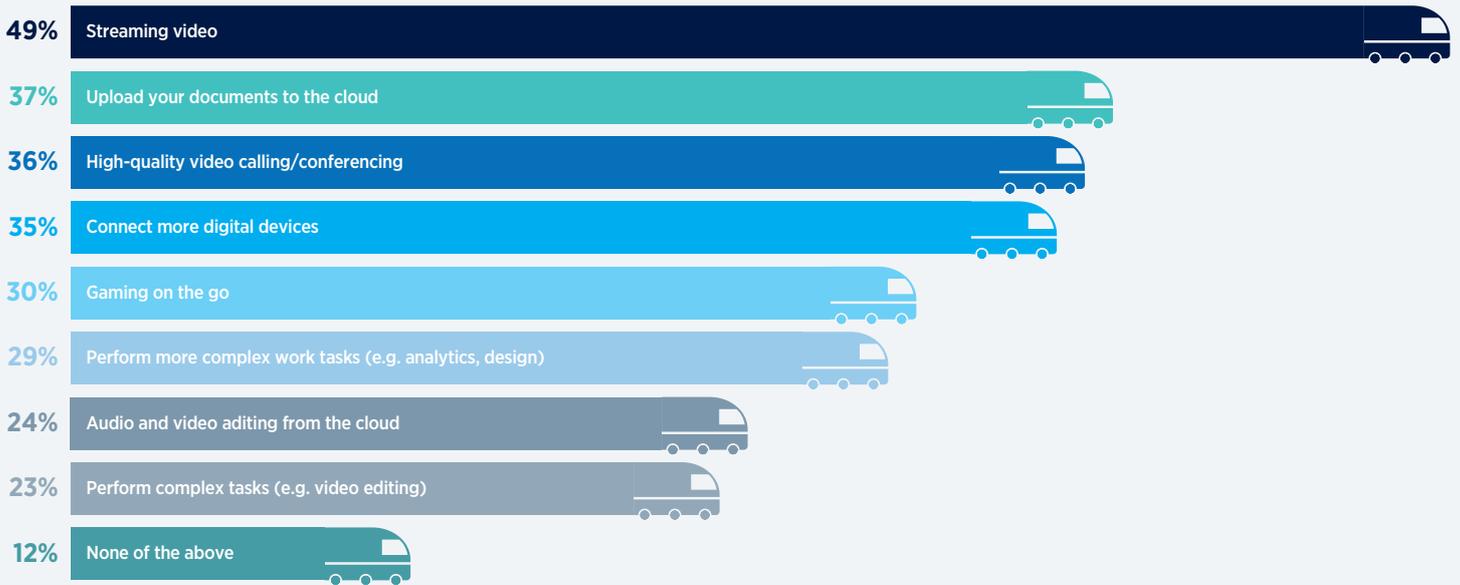


Figure 7. Streaming video was ranked number one out of all uses for fast, secure and robust Internet or data connections



Around 88% of public transport users would take advantage of a fast, secure and robust 5G network during their trips — with the strongest sentiment in Hong Kong at 96%. Figure 7 shows almost half (49%) of all transport-takers would use 5G for streaming video

(with even higher support in New York, Toronto and Hong Kong). Other top uses include uploading documents to the cloud and participating in video calls and conferences.

Willing to pay for fast, reliable connectivity

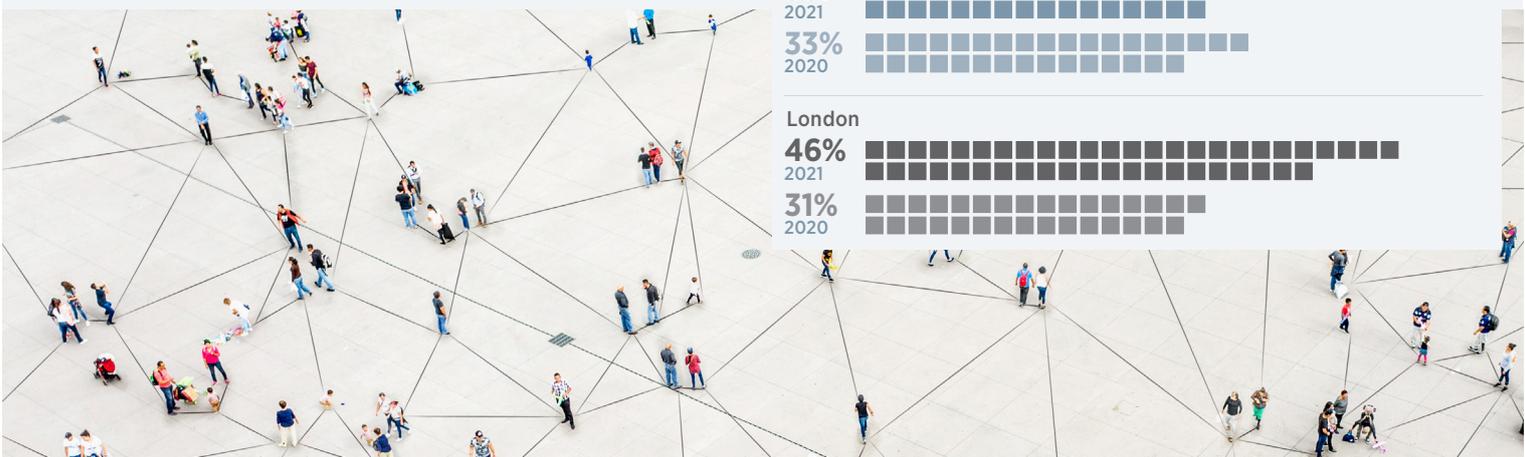
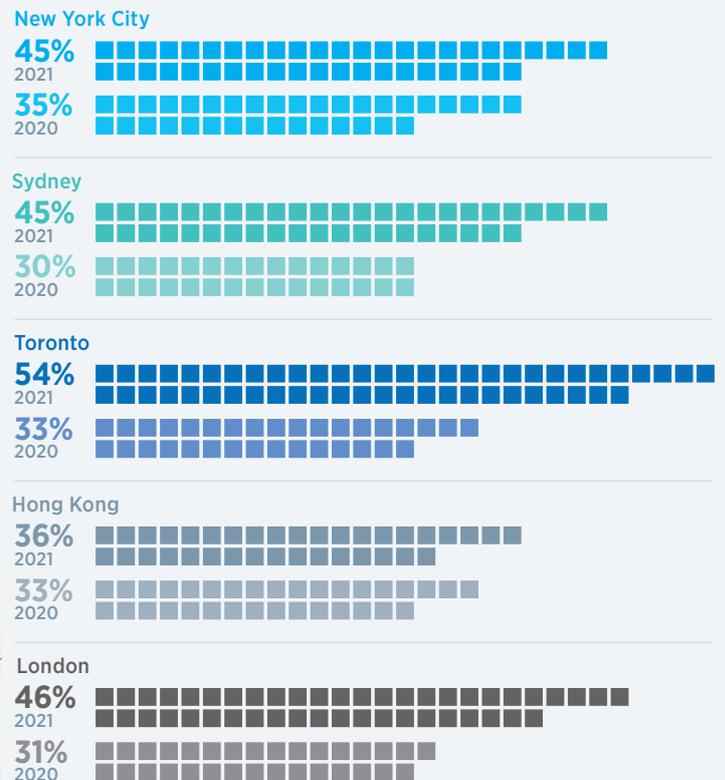
The percentage of users who would pay more to use public transport that offered uninterrupted mobile coverage and high-speed internet throughout the journey has grown over the last three years, reaching 49% in 2021.

COVID-19-related isolation may also contribute to the increase seen in Figure 8 in every city among users who believe more connectivity in public transport would help them stay better connected to friends and family.

Meeting passenger expectations requires investment in advanced infrastructure. There is particular support for city-built 5G — nearly all transport users (95%) believe advanced infrastructure would improve their journeys and 84% are willing to pay more for coverage.

They believe this connectivity would help them feel more productive and be happier when they reach their destinations and allow them to enjoy more personal time and stay in closer touch with loved ones along the way.

Figure 8. Many public transport users would benefit from better connectivity to stay connected with loved ones





Better connectivity, better operations

Many users would like to see technology enable predictive maintenance and operational excellence to improve the overall transport experience.

One-third (34%) believe predictive maintenance systems to prevent unplanned downtime and reduce service interruptions should be among the top three priorities for transport authorities to implement.

Slightly more respondents (41%) think transport authorities should implement connected sensors in systems and tunnels to deploy pre-emptive maintenance teams

and reduce unplanned downtime as a top-three priority. This ranks it as users' third priority overall, up from fifth in 2020.

Around a third (32%) would prioritise notifications about out-of-order elevators, escalators and other accessibility features in the top three.

The same connectivity infrastructure deployed to enhance the passenger journey can support the full array of operational solutions like these, improving transport efficiency, reliability and long-term sustainability – all of which ultimately result in an even better passenger experience.

Passengers want sustainable public transport

Four out of five (80%) of passengers choose public transport for environmental reasons, and even more of them are in favour of smart applications that could reduce the carbon footprint of transport systems and governments.

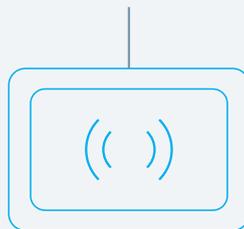
More than 90% of all commuters support improving sustainability, along with 95% of non-commuters. In New York City, more than half (54%) of public transport users are strongly in favour of government support for sustainable transport initiatives.

If you build it, they will ride



93%

of users support government investment in wireless and fibre network infrastructure for public transport systems



49%

of users would pay more for public transport that offered uninterrupted mobile coverage and high-speed internet across their entire journeys

Would maintain meaningful connections with loved ones

45%



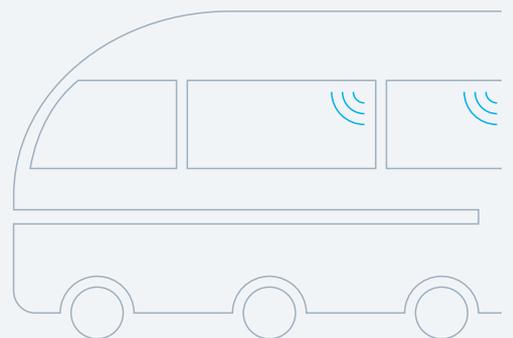
Would arrive happier and more relaxed

52%



Would enjoy 'me time', free from the distractions of family or chores

46%



Conclusion

Connected public transport is the cornerstone of a smart community

People around the world expect their public transport systems to do more than move them from A to B, particularly in the wake of the COVID-19 pandemic. They also want technology to make their journeys more seamless, safer, cleaner and help them be more productive on the go. Increasingly, citizens expect these kinds of services not only from their public transport systems but in every aspect of their daily lives.

The more seamless the transport experience can be, the more appealing it is as an option compared to other modes of getting around — helping communities move toward a sustainable future.

Transport authorities can provide that seamlessness by delivering reliable connectivity and personalised services that make people's journeys better and lives simpler.

Delivering on the promise of shared communications infrastructure, that carriers can use, requires forward-thinking municipalities and transport authorities to go above, below and beyond for citizens.

Building the right infrastructure and platforms for smart transport is a first step toward pioneering a new kind of network ecosystem that meets the full range of citizen needs — one that gives transport authorities the opportunity to maximise their infrastructure investments, improve the lives of passengers and provide a platform for smart communities.

Most respondents favour government investment in the kinds of advanced infrastructure required to achieve these goals. With innovative thinking and government support, transport authorities can be a key part of creating smarter communities in the future and smarter cities for all.

93%
support government investing in new and reliable wireless and fibre networks for transport.





bai communications

Methodology

BAI conducted this study to explore people's attitudes and behaviours toward their city's public transport systems now and in the future, with a particular emphasis on rail networks and digital connectivity. The research was commissioned by BAI Communications and conducted by Lonergan Research under the ISO 20252 standard.

2,516 rail users aged 18+ were surveyed in New York City (n=504), Sydney (n=510), Toronto (n=500), Hong Kong (n=501) and London (n=501). The 20-question survey was conducted online amongst members of a permission-based panel, between July 22 and 29, 2021. After interviewing, data was weighted to the latest population estimates and rebased to provide an equal sample of people in each city.

We use the terms, 'public transport users' or 'users' interchangeably to refer to anyone who has used any form of public transport in the past three months. 'Commuters' refers to the subset of public transport users who work or study full-time and have used any form of public transport to get to or from work or school in the three months before the survey.

