THE LONDON SCHOOL OF ECONOMICS AND POLITICAL SCIENCE ■ | LSE**Cities** | Alfred Herrhausen Gesellschaft

INTRODUCTION

This summary report presents the findings of a global survey on 'Localising Transport' in cities. The survey, conducted between May 2021 and June 2021, invited urban thinkers, leaders, and practitioners across the world to share their perspectives on urban transport and mobility in cities today and over the next few decades.

This survey is part of the Urban Age Debates: Cities in the 2020s outreach programme organised by LSE Cities at the London School of Economics and Political Science, and the Alfred Herrhausen Gesellschaft. Initial insights from the survey informed the third debate on 'Localising Transport: towards the 15-minute city or the one-hour metropolis?'

THE BIG PICTURE

A total of 342 urban thinkers and practitioners from 52 countries shared their thoughts and opinions for this Urban Age Debates Survey. Two groups of respondents with different sentiments towards the future transport were identified: those anticipating transformation, and those expecting continuity. These two groups remain split with regards to the future development of mobility and urban transport, transport infrastructure, and urban structure.

The first group, with a focus on transformation, believe that an absolute increase in active transport use (walking and cycling) is more likely to take place in post-pandemic cities, rather than an increase in personal car use. While they support the maintenance and expansion of public transport services (even if ridership does not recover), they are confident that active transport use will be in demand, as they anticipate an overall reduction in travel distances due to virtual connectivity. This group is made up mostly of respondents from Europe (where the majority of survey participants come from) and the Americas.

This transformative group also shares similar views on urban structure. They believe their cities should invest in the development of inner cities, as they will become more attractive places to live and will offer greater proximities like the 15-minute city. This group is also more likely to agree that better urban mobility can be achieved by a more pronounced shift to mixed-use, mixed-income, and higher density development. Overall, they view their post-Covid cities as spaces based on proximity and hyper-localisation, where access to diverse amenities is available by walking or cycling.

The second group, expecting continuity, anticipate an absolute increase of private car use, and agree that the need for individual motorised travel rather than walking and cycling will remain significant in post-Covid cities. Although they believe in the overall reduction of physical travel due to digitalisation, they encourage the widespread use of motorised vehicles. While the majority of this group also agree that public transport is a public good and the backbone of sustainable urban development, they are hoping cities will embrace more mobility-on-demand services as part of public transport services. This may be due to the fact that the group expects a further dispersal of urban activities with a reduction of urban densities. The majority of respondents from this group are from Africa, Asia and Australia.

Across both groups, respondents are relatively positive about the post-Covid future of public transport. Most believe that in the future public transport providers will encourage less the widespread use of face masks, and are less likely to encourage social distancing measures. In terms of the demographic characteristics that correlate with views and attitudes expressed, only region had an impact on how respondents replied to the survey.

SPECIFIC FINDINGS

As a policy field, urban transport typically brings together issues of mobility, connectivity, land use, economic development, social inclusion, environmental sustainability and public health. More recently, concerns about climate change and unequal access have become particularly prominent aspects of urban transport policy.

Over the past decades, transport scholars and policymakers have devoted much time to questions about the need to travel and urban proximity, arguing for transport solutions that address inequalities and environmental concerns through better urban form and connectivity. There has been a push towards models that embrace urban patterns based on locality, density, and mixed-use, ranging from the compact city model to the idea of the 15-minute city.

These debates have further intensified in the face of a global pandemic that has destabilised passenger demand, due to a combination of government lockdowns, increased digital connectivity, and fears of contracting or spreading the virus.

 The resulting conditions have brought about tensions between hyper-localisation and metropolitan living, that raise important questions about the future of mobility and transport post 2021, and its influence on urban structure.

FUTURE SCENARIOS FOR TRANSPORT

There is a plethora of research that indicates transport systems in a post-pandemic world are unlikely to see pre-pandemic levels of commuting. And as remote work has become a real option for many, some commentators view the pandemic as an opportunity to reconfigure wider relationships between transport and urban structures.

This first section presents survey findings linked to possible scenarios that could affect transport in the near future. When asked which of two baseline scenarios participants consider more likely to occur within cities (Figure 1), two-thirds of respondents (67%) are convinced hyper-localisation will take place, with greater proximities between urban functions, and an overall reduction in the need to travel. One-third (33%) believe a dispersal of urban activities with a reduction of urban densities, and a greater need for individual motorised travel is more likely.

This speculation leads to more detailed questions about likely scenarios for the future of mobility and urban transport (Figure 2). Most survey respondents (83%) agreed that it is likely that an absolute increase in active transport use (cycling, walking, e-bikes/scooters) will occur, as well as a reduction of commuting and business travel intensities (77%). An overall reduction of physical travel (total personal km travelled) due to virtual connectivity is also likely to happen according to the survey respondents (74%). Over half of the respondents (59%) agreed that a shift from motorised transport modes to walking and cycling will occur, and 46% judge that an absolute increase in personal car use is likely. Respondents are uncertain whether an absolute reduction of public transport use is likely to take place overtime.

Expanding such speculations to transport-related questions regarding urban structure and demography (Figure 3) reveals particularly clear views regarding the former. More than three quarters of respondents (78%) agreed that smaller and medium-sized cities will become increasingly attractive and will see an increase in residents. Additionally, most survey respondents (71%) believe it is likely that urban street use for public space will increase, as transport space (movement function) will reduce. Such perspectives align with trends towards greater localisation. Similarly, when asked if inner city urban neighbourhoods will become more attractive places to live, offering ever greater proximities like that of the 15-minute city model, over 67% considered this likely. In terms of demographic change, 63% agreed

that the share of younger people in inner cities will increase while families and the elderly will opt for more suburban and rural areas. Despite the above, only 33% believe that Mega-cities will become less attractive places to live and that their growth will stagnate or decline.

Figure 1: Two Baseline Scenarios for Localising Transport
Which of the following two baseline scenarios do you consider more likely?

Scenario A: Hyper-localisation with greater proximity between urban functions and an overall reduction of the need to travel

Scenario B: A dispersal of urban activites with a reduction of urban densities and a greater need for individual motorised travel

67%
Scenario A:
Hyper-localisation

33%
Scenario B:
Dispersal of activities
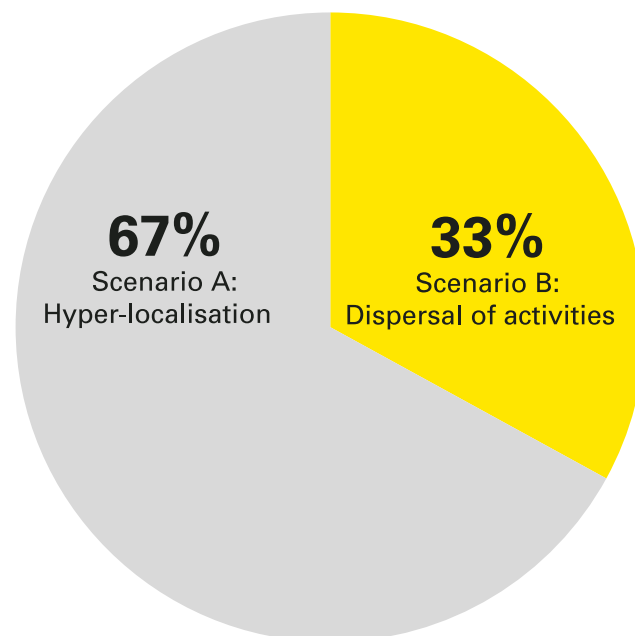
NORMATIVE PERSPECTIVES

Almost all respondents (98%) agree that public transport is a public good and will remain the backbone of sustainable urban development (Figure 4). A large majority (91%) also agree that the widespread use of privately owned cars for daily mobility within dense inner-city areas is incompatible with a healthy, walkable, and just city. Three quarters (74%) agree that instead of building more transport infrastructure, their cities require an urgent shift to better transport services and management of vehicles. This also connects with wide-spread disagreement (74%) that consumer demand for driving and owning cars will remain high, and that city governments should accept current levels of motorisation. However, during the pandemic, active travel, as well as car use has become more attractive. Despite this fact, majority disagree that economic and employment considerations linked to the automotive industry should be prioritised during the recovery phase.

Figure 2: Future Scenarios for Localising Transport

How likely are the following scenarios for the future of mobility and urban transport?

An absolute increase in active transport use
(cycling, walking, e-bikes/scooters)

A reduction of commuting and business intensities
(total work - related personal km travelled)

A reduction of physical travel (total personal
km travelled) due to virtual connectivity

A shift from public transport to walking and cycling

An absolute increase in personal car use

An absolute reduction of public transport use

0%   20%   40%   60%   80%   100%

■ Very likely   ■ Somewhat likely   ■ I don't know   ■ Somewhat unlikely   ■ Very unlikely
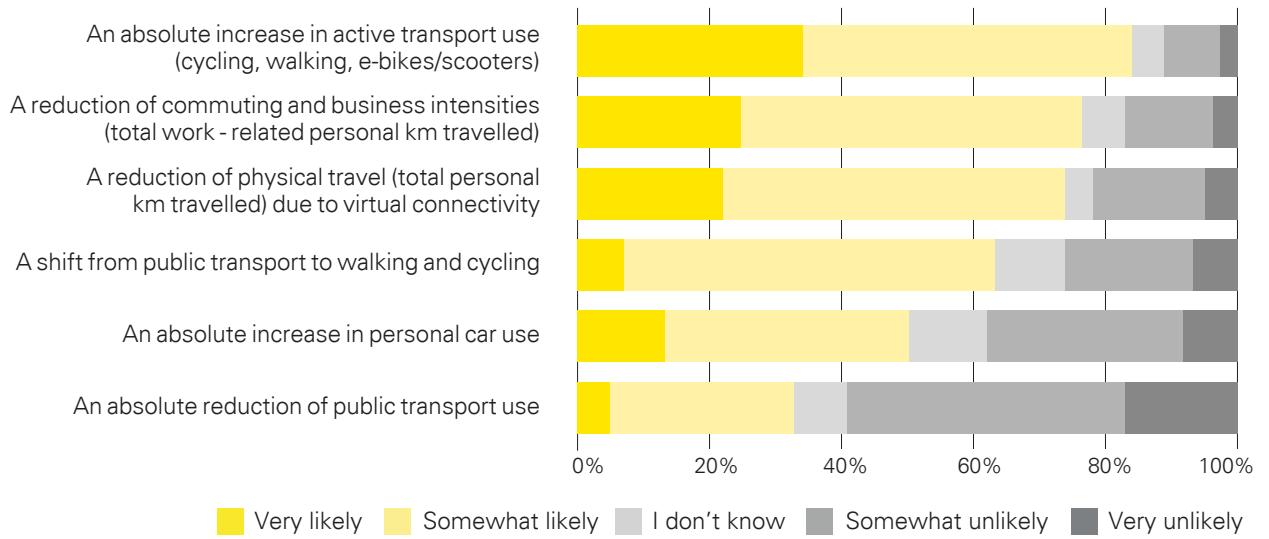
Figure 3: Expected Changes to Urban Structured Demography

Regarding urban structure and demography, how likely are the following changes to cities post-2020?
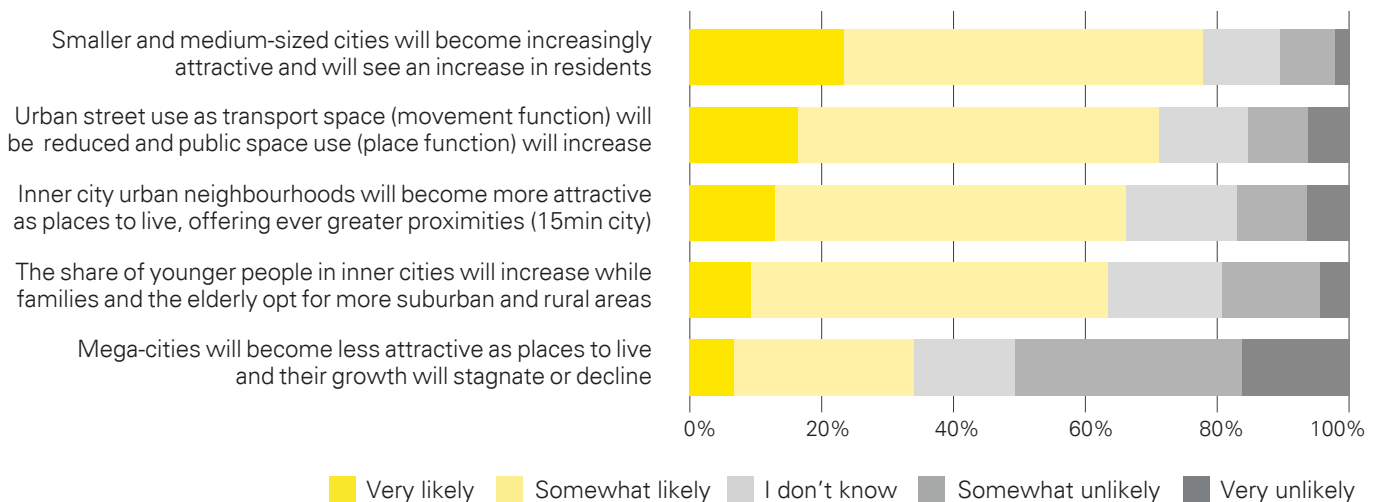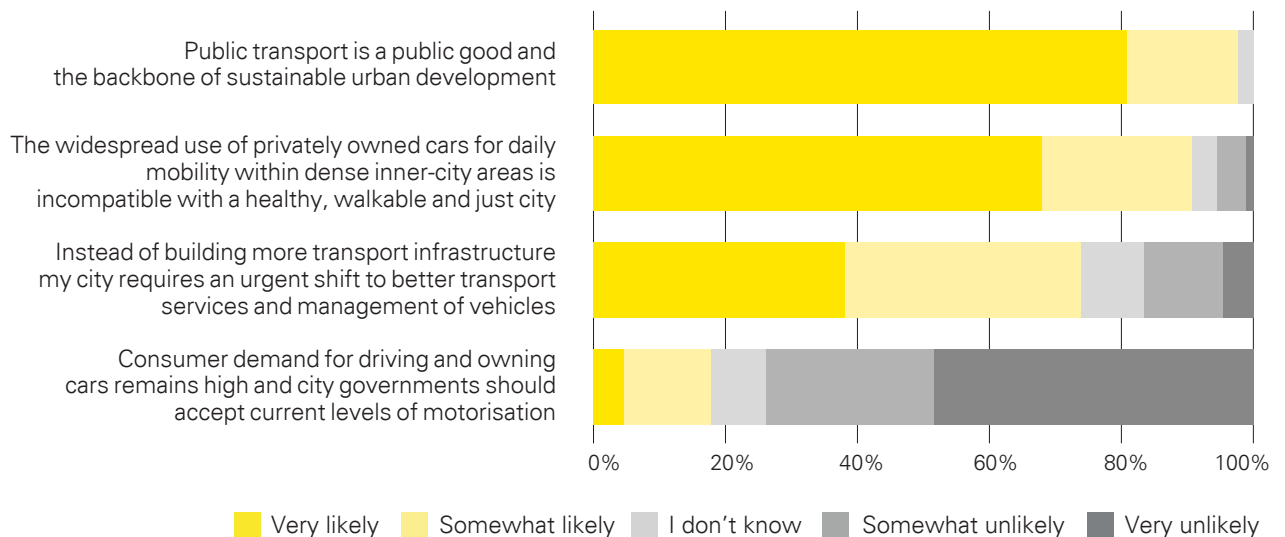

Smaller and medium-sized cities will become increasingly
attractive and will see an increase in residents

Urban street use as transport space (movement function) will
be reduced and public space use (place function) will increase

Inner city urban neighbourhoods will become more attractive
as places to live, offering ever greater proximities (15min city)

The share of younger people in inner cities will increase while
families and the elderly opt for more suburban and rural areas

Mega-cities will become less attractive as places to live
and their growth will stagnate or decline

0%   20%   40%   60%   80%   100%

■ Very likely   ■ Somewhat likely   ■ I don't know   ■ Somewhat unlikely   ■ Very unlikely

Figure 4: Normative Views and Expectations

To what extent do you agree with the following statements?

Public transport is a public good and
the backbone of sustainable urban development

The widespread use of privately owned cars for daily
mobility within dense inner-city areas is
incompatible with a healthy, walkable and just city

Instead of building more transport infrastructure
my city requires an urgent shift to better transport
services and management of vehicles

Consumer demand for driving and owning
cars remains high and city governments should
accept current levels of motorisation

0%   20%   40%   60%   80%   100%

■ Very likely   ■ Somewhat likely   ■ I don't know   ■ Somewhat unlikely   ■ Very unlikely

THE NEXT DECADE OF URBAN TRANSPORT

This last part of the survey reviews how better urban mobility should be achieved post-2020 (Figure 6). First, a pronounced shift to mixed-use, mixed-income and higher density developments was ranked as a key priority. Almost equally placed was a focus on micro-accessibility, walking and cycling opinions possibly indicating that decentralised neighbourhoods should be designed to fulfil the standards of the 15-minute city mixed-use functions. This approach offers a range of public open space and amenities for communities that fulfil the essential functions of living, working, supplying, caring, learning, and enjoying without travelling far.

With regards to equity and justice in transport, respondents ranked improving accessibility for disadvantaged urban populations in third place, and when asked questions about incorporating equity considerations as part of mobility pricing, the majority of participants seemed indifferent. A substantial portion of participants judged that fully integrating digital connectivity as part of the urban accessibility equation and developing unified mobility pricing systems (for all motorised and shared transport modes) should be less important, ranking these options last.

Figure 5: Priority Reforms
How should better urban mobility be achieved post-2020? Ranked from most important (1) to least important (7)
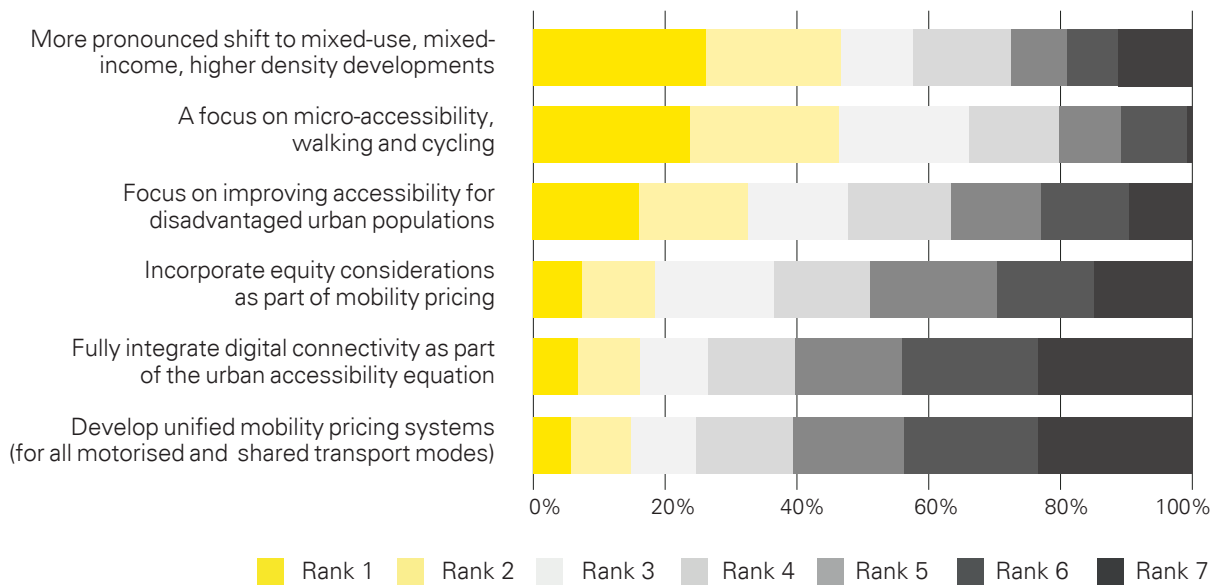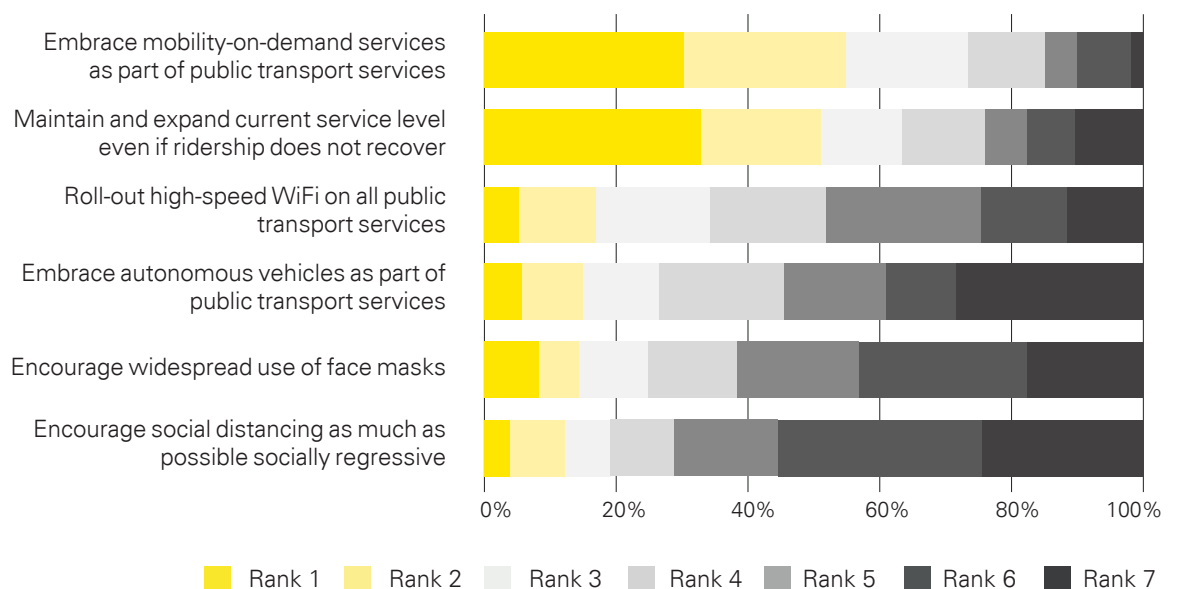

Figure 6: Public Transport Futures
What do you believe should happen to public transport in the future? Ranked from most important (1) to least important (7)

With regards to an agenda for public transport post-2020, participants we asked to rank particular statements from least important to most important. (Figure 5). The majority ranked the adaption of mobility-on-demand services to be part of public transport services first. Second was the maintenance and expansion of current service levels, even if ridership does not recover. Despite the rapid push towards digitalised solutions in our cities, the roll-out high-speed WiFi on all public transport services was not prioritised (17% ranked it in the top two) neither was the concept of embracing autonomous vehicles (15% ranked it in the top two) taking fourth and fifth place. Interestingly, a majority of respondents ranked the use of face masks in public transport, along with social distancing as least important. This indicates that Covid restrictions in transport are not desirable to many, possibly because conditions might change due to accelerated access to vaccinations. The prioritisation of public transport services, however, remains key among respondents, indicating that leaders should continue exploring options that maximise individual consumers' freedom, flexibility, and diversity of choice.

CONCLUSION

This survey summary has shown that a clear divide exists about the future of transport cities and its effects on urban patterns. The results revealed two primary groups with differing sentiments: those expecting transformation and those continuity. Clear demographic differences exist between respondents who believe in the shift to walking and cycling residing in Europe (74%), North America (70%) and South America (80%), and respondents who believe in the increase in personal car use - residing in Africa (53%), Asia (52%) and Australia (60%).

Despite these distinct differences respondents across all groups and regions felt relatively optimistic about the impact of the pandemic on public transport in cities and view the post -Covid city as one which will continue to utilise public services even if ridership does not recover, numbers of remote workers increase, and government restrictions remain. Public transport is however, more likely to take different forms as some support mobility on demand services, and others support existing public transit.

The findings of this survey show that much remains to be revealed in the subject of urban transportation, and hence future mobility and urban planning in the face of Covid, as we continue to react to the drastic changes that began in 2020.

Urban thinkers and policymakers thus have a significant task ahead of them in shaping the post-2021 trajectory of transport models. Whilst some solutions will certainly provide risks other could potentially ameliorate them. The big question lies in our ability and willingness to accept change when the time comes.

APPENDIX: METHODOLOGY

This survey was conducted online by reaching out to respondents via direct emails and social media from across the Urban Age Programme's global network.

During the period May 2021 to June 2021 the survey gathered 342 full and partial responses of which 250 were included in the cluster analysis. There were no mandatory questions in the survey, and all answers were optional. Responses were recorded from 52 countries, and the highest number of respondents were from the United Kingdom, and Germany. The vast majority of participants worked in the field of urban planning and transport development. Respondents were between the ages of 20 and 80, with a slightly higher percentage of males (61%) than females (39%).

It was challenging to precisely predict how survey respondents would feel about the larger effects of transport and mobility within cities due to unexpected government lockdowns over the course of the year, transitions to remote working, and the acceleration of vaccinations. As a result, rather than providing definitive answers based on evidence, the survey was designed to capture broader subjective ideas and sentiments. The questions were centred on respondents' predictions for how urban mobility could change over the next ten years. They also ask what should be accomplished based on the opinions of the respondents.

After gathering the question responses from the survey, the data was cleaned, the rows with missing values were removed and converted to integer values. The next step used a dimensionality reduction method to compress the data in order to conduct further analysis. Dimensionality reduction methods reduce the dimensions in a dataset (given by the number of variables) which then allows for the data to be plotted on two or three axes.

Reducing dimensions was completed using Principal Component Analysis (PCA), unsupervised linear transformation technique to identify patterns among the variables. The data was standardised before implementing PCA to assign equal importance to all features, because otherwise it would not be able to find the optimal Principal Components.

A cluster analysis was then performed, which helps to group respondents who answered questions similarly. For cluster analysis, the k means method was used. The purpose of this technique is to divide all observations into a selected number of clusters. To identify the ideal number of clusters that should be included in the cluster analysis the elbow method was performed. This technique reveals the highest number of clusters after which point each increase in the number of clusters does not significantly increase the level of inertia (the sum of squared distances to the nearest cluster center) or variance, in the data.