



Refined Personas and Scenarios

D2.1

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D2.1: Refined Personas and Scenarios

University of Nottingham,
Human Factors Research Group

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The activities listed under Work Package (WP) 2 of the ServCity project were intended ultimately to inform the identification of key potential points of interaction and user requirements for an Autonomous Vehicle Mobility as a Service (AV MaaS) facility. This deliverable provides an update to D2.4 (Personas and Scenarios - iteration 1), and presents the personas and scenarios that were developed in order to communicate the potential needs of end-users of the AV MaaS facility.

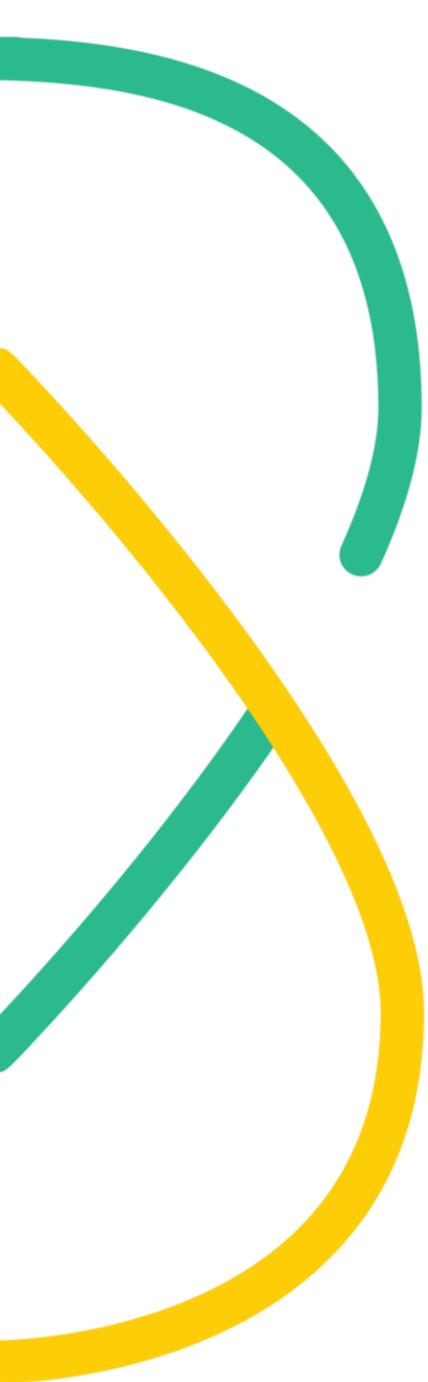
Personas and scenarios are a useful tool during the design and development phase of new products and services. They illustrate potential end-users of the product or service under development, and prompt discussion and consideration about how these end-users might interact with them, and can inform the formulation of user-requirements and functional specifications. The intent behind the use of personas and scenarios for the ServCity project was firstly to develop a consensus regarding the targeted uses/users of the ServCity technologies, and secondly to highlight potential Human Machine Interface (HMI) issues which need to be considered for a driverless mobility service. These discussions and considerations subsequently inform the development of key user requirements for HMI design, which are crucial in ensuring the AV MaaS successfully meets the needs of end-users and ensuring usability.

The University of Nottingham (UoN) conducted a number of data collection activities in order to examine potential HMI issues which need to be addressed during the development and planning of an AV MaaS facility. These activities included a series of interviews with regular taxi users, a review of relevant literature and an internal workshop. The information gathered through these activities initially informed the creation of six “personas” of regular taxi users and nine potential “scenarios” in which these personas have experienced using

taxi, which were presented in D2.4. These personas and scenarios were presented to the wider ServCity consortium at a workshop which sought feedback on their relevance to the project.

Following this workshop, the UoN partners conducted efforts to refine the personas and scenarios based on feedback given by other consortium members. The team also conducted further data collection activities with regular taxi users who have additional transport needs, such as accessibility issues, or those with parenting/caring responsibilities. A further two personas (with three accompanying scenarios) were developed based on this extra data, in addition to a number of revisions made to the existing personas and scenarios. A further two workshops were held, one with consortium members and one with other UoN Human Factors (HF) colleagues, to ascertain the extent to which the personas and scenarios would be suitable for illustrating the HMI (and other) needs of different kinds of users of the services proposed by ServCity.

These personas and scenarios will be revisited throughout the ServCity project in order to update and expand them as necessary in light of new user-based information, whilst also incorporating any decisions made relating to the targeted user/use-case of the ServCity technologies. It is envisioned that the final personas and scenarios will be relevant and useful to stakeholders outside of the ServCity project who may be involved in the development of similar kinds of technologies and services. A key indicator of the success of the personas and scenarios will therefore be the extent to which they are useful and useable by those outside of the ServCity consortium as an illustration of a wide range of HMI issues.



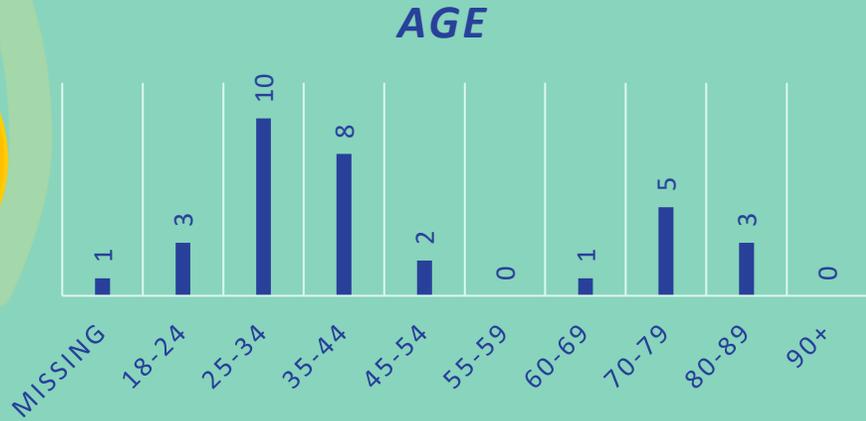
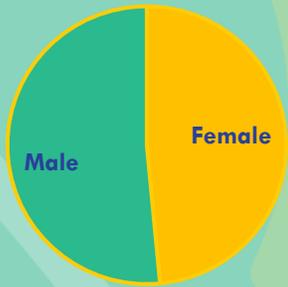
We would be delighted if you used the personas in your own work. If you do so, we respectfully ask that you cite the source:

Hallewell, M, J., Hughes, N., Harvey, C., Large, D, R., & Burnett, G. (2022). D2.1: Refined Personas and Scenarios. Retrieved from ServCity, UK:
[https://www.servcity.co.uk/Uploads/ServCity/D2_1 Refined Personas and Scenarios.pdf](https://www.servcity.co.uk/Uploads/ServCity/D2_1%20Refined%20Personas%20and%20Scenarios.pdf)

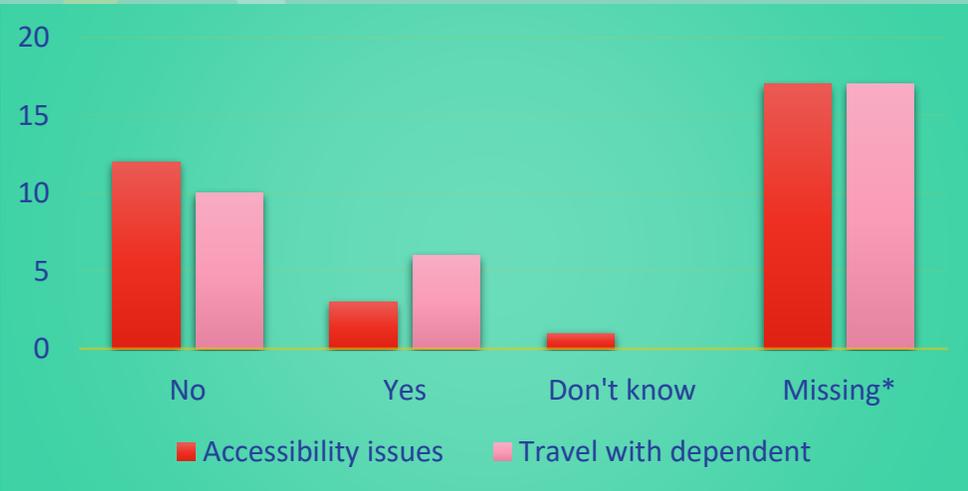
Extracts of this work also appear in:

Hallewell, M, J., Hughes, N., Large, D, R., Harvey, C., Springthorpe, J., & Burnett, G. (2022). Deriving Personas to Inform HMI Design for Future Autonomous Taxis: A Case Study on User-Requirement Elicitation. *Journal of Usability studies*.

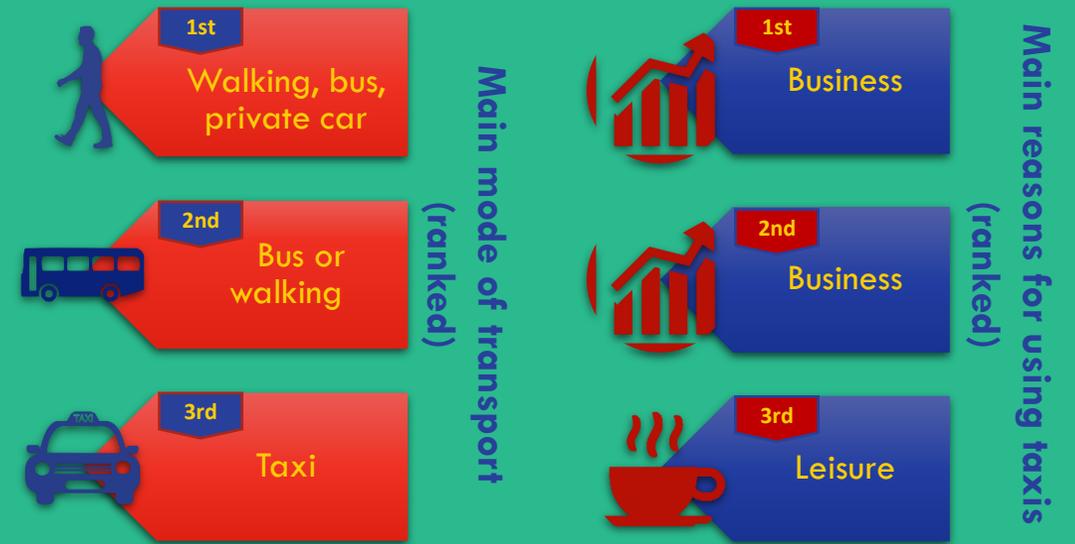
Personas and scenarios were based on interviews with regular taxi users. Demographic, travel and taxi usage information is summarised here.



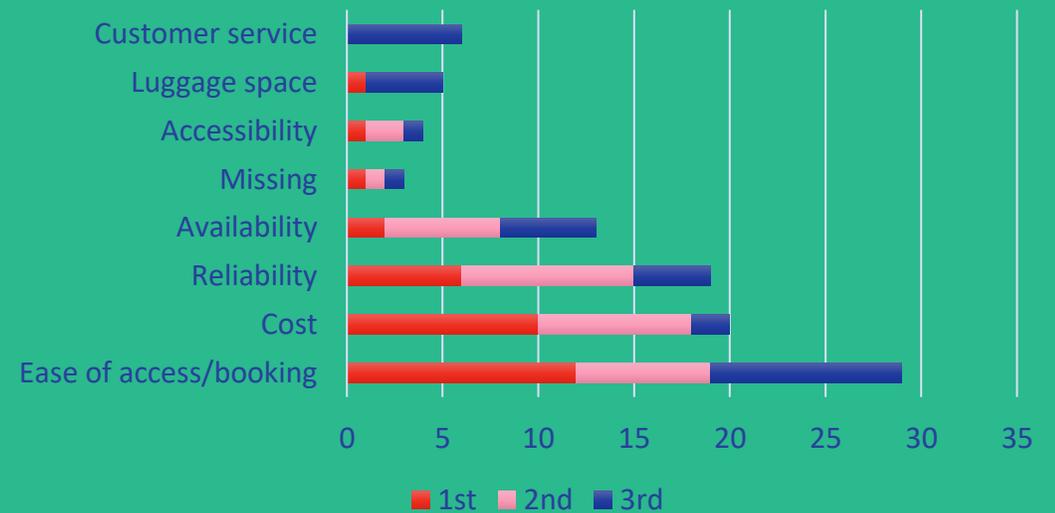
33 participants



* Options only presented to 16 participants, one participant didn't return the questionnaire



“Rank the 3 most important factors when booking a taxi”





Mary, 81

Mary lives in sheltered housing in a small town. She is very active in her local community, however she has mild hearing loss, and she finds it difficult to walk, she often needs to use a walking stick.

Her husband died 5 years ago and as she has never driven, she has to rely on the local bus to get about. She's happy to take the bus, but the service is limited and it's hard for her to stand and wait if its late. She will ask friends for lifts, but doesn't like to impose unless it's important.

If she goes out in the evening, she prefers to get a taxi knowing it will take her door to door, so won't have to walk far especially at night.

"I know I can be a bit slow, but when taxi drivers don't show up because they recognise the address (sheltered housing), it's very frustrating"

"I like to be independent, I don't like to rely on my friends for lifts, but some 'out of town' places are so hard to get to otherwise"

Mary has an old Android smartphone that her son gave her so they can always contact each other when she's out and about, but she finds it really hard to hear on it, particularly when outside.



She prefers to use her landline for making any arrangements, as she can hear better and also finds the raised buttons much easier to press than those on the flat smartphone screen.



Travel & Transport

Top 3 modes of transport

Bus

Taxi

Lifts with others

Top 3 reasons for taxi usage

Leisure

Shopping

Medical

Willingness to share a taxi



Technology and Income

Technology acceptance



Openness to experience



Budget





Mary Going to church

Mary likes to visit her family's church, once a month.

It takes two buses, but there is a 30 minute wait in between and she finds it hard to stand for long, especially in winter.

Friends have offered to take her, but she feels uncomfortable asking them to wait too long.

Instead she calls for a taxi, but makes sure to ask if the taxi driver can wait. It costs more, but at least she knows she can get home.

"I feel like they value my custom, even though I'm old!"

"I can relax now, knowing everything is confirmed"

"It's nice the driver offered to help, it's so awkward if you have to ask"

"I'm glad the driver is patient and I don't feel rushed"

Mary calls her local taxi company, she likes them because they always greet her by name and know where she wants to go. She's tried other companies, but found when they saw her address was 'sheltered housing', they often wouldn't show up.

She likes to speak to the taxi operator directly, so she can arrange for the driver to wait for her at the church and then also bring her back after. She feels happier if she can confirm this with them and also reminds them not to send one of the bigger cars, which she struggles to step up into.

After hearing 3 rings on her telephone she collects her coat, bag and stick and waits by the window. The taxi arrives and she is relieved to see the driver get out to help her with her things. She apologises for being 'so slow', but the driver is very relaxed and also helps her with her belt, which she always finds difficult to reach.

The car is clean and smells fresh and the driver makes sure to speak up so she can hear him, which she appreciates. When they arrive at the church, the driver asks Mary the best spot to drop her so she doesn't have to walk too far. They agree for the driver to wait 30 minutes, which reassures her they won't leave without her!

key journey stages

Planning

Decision to book

Booking

Waiting / Approach

Ingress

Transit

Arrival

Payment

Egress

Feedback



Georgia, 20

Georgia is working in the city on a business placement as part of her degree and currently lives with her family in an outlying suburb.

She doesn't drive, so gets the bus to and from work. It is a 10 minute walk to the bus stop from her house, and although it's only a 5 mile journey, the bus journey takes nearly 40 minutes as it's a residential area with many stops. She would love to buy a car one day but worries about cost and how much she would use it.

She likes to go to fitness classes and socialize after work in the City with friends. She sometimes travels straight from work or otherwise from home. She prefers to travel with friends, especially at night.

"I wish there was a safety alarm that you could press if you felt unsafe in a taxi or in case of an emergency"

"I like that during booking you can share trip information with family or friends. So they'll always know where you are"

Georgia has an Apple iPhone, which she uses mainly for keeping in touch with friends.

She is cautious about her use of online apps and services and avoids sharing her information too widely, especially with companies she doesn't know.

Her phone is a few years old and runs out of power quickly. Her data contract is limited so she has to keep track of remaining data.



Travel & Transport

| | |
|--------------------------|------------------------------|
| Top 3 modes of transport | Top 3 reasons for taxi usage |
| Bus | Leisure |
| Taxi | Shopping |
| Walking | Holidays |

Willingness to share a taxi



Technology and Income

Technology acceptance



Openness to experience



Budget





Georgia Night out

Georgia has been out to a club with four friends on Friday night. The buses have stopped running as it's after 11pm.

Her friends live on the same estate as Georgia, so they have decided to share a taxi home. They know that they will need to request a larger vehicle to fit them all in.

It is Georgia's turn to book the taxi, but her phone's battery has run out of power. Luckily she can ask a friend who has the app, but she's concerned how she will now pay.

"I'm glad my friend didn't mind booking the cab on my behalf"

"We should check, just to be sure"

"That was close – I'm glad the driver checked"

"I hope he doesn't throw us out"

Georgia's friend books the app by entering her postcode, she notices that there is only one vehicle large enough to fit everyone. She books it and then adds Georgia and her other friends' postcodes, in order to split the journey cost.

Georgia reminds her friend to contact the driver on the app to double-check that the vehicle is big enough. Georgia and her friends had a bad experience in the past where the vehicle arrived but could not fit everyone in.

The street is very congested. Georgia sees 2 larger vehicles approaching, her friend recognises the colour of theirs from the app. However, as the vehicle arrives another group of people try to catch the driver's attention - fortunately, their booking name doesn't match so he drives on towards Georgia and her friends.

Georgia and her friends get into the taxi. The driver seems nervous about one of her friends who is quite drunk. Georgia hopes her friend isn't sick in the car and suggests they change the drop-off order in the app, so her drunk friend gets home first.

key journey stages

Planning

Decision to book

Booking

Waiting / Approach

Ingress

Transit

Arrival

Payment

Egress

Feedback



Ahmed, 43

Ahmed lives with his wife and three children (aged 8, 5 and 3) in a village 8 miles from the nearest town centre. He works full-time for the local council and his wife works part-time as a teacher. Ahmed has to travel a lot for work, making frequent short trips within the local area and longer journeys to various locations in the UK.

Two of his children go to the local primary school and the youngest is looked after by grandparents when needed.

He travels 2-3x per week to work with his wife, who drops him off as their workplaces are close together near the city centre. However, if he has to travel further, his wife takes the car whilst he gets a taxi to the train station.

"I wish I had a choice of taxi routes as I know a lot of local areas and like to use different routes at different times"

"I like the idea of ride sharing for sustainability reasons. I'd be happy to share a taxi with others if it was cheaper and secure"

Ahmed has an Android smartphone for work and an Apple iPhone for personal use. He uses his iPhone to talk to friends/family and prefers calling to texting.

He usually plans his trips on his work laptop, but finds it easier to talk to someone over the phone for travel booking.

He was thinking of trying Uber, but isn't allowed to add any unauthorised apps on his work phone.



Travel & Transport

| Top 3 modes of transport | Top 3 reasons for taxi usage |
|--------------------------|------------------------------|
| Shared car | Business |
| Taxi | Holidays |
| Train | Caring |

Willingness to share a taxi

Technology and Income

Technology acceptance

Openness to experience

Budget



Ahmed Going on holiday

Ahmed and his family travel abroad at least 4 times a year. They prefer to get a taxi to the airport as they find airport parking too expensive.

They take a lot of luggage, along with a buggy for their youngest child, so they need large vehicles.

Ahmed almost always books the taxi in advance, as he wants to be sure that a suitable vehicle is available. He finds that booking ahead reduces the stress of travel.

"I hope I've given them enough notice for a bigger vehicle"

"I'm glad the driver will wait - it's one less thing to worry about"

"I hope this stop won't cost extra, I've only got a bit of cash"

"I'm so relieved, the driver knows the best place to drop us off"

Ahmed calls his preferred taxi company to pre-book his journey in 2 days time. He asks for a large vehicle for a family of 5, and checks whether they can provide a car seat for the youngest child, as he doesn't want to carry their own on holiday.

When the driver arrives, they offer to help Ahmed and his wife load the luggage, and the driver also fits the car seat which was stored in the boot. Ahmed and his wife have to go backwards and forwards between the car and house many times, and finally they bring the children out to the car. The driver is very patient, which they appreciate.

They have to go on the motorway to get to the airport and it is a 45 minute journey. One of his children needs to stop off at a service station for a toilet break. The driver is happy to accommodate this but Ahmed worries that it will add to the cost of the journey.

They arrive at the airport on time and Ahmed is relieved that the driver already knows the right 'drop-off' point for their terminal. They need to pay to enter this area so Ahmed hands the driver some change.

key journey stages

Planning

Decision to book

Booking

Waiting / Approach

Ingress

Transit

Arrival

Payment

Egress

Feedback



Ahmed Catching a train

Ahmed travels for work at least once a week and usually gets an early morning train. He lives 8 miles from the station.

Ahmed always books the journey to the station the evening before. He uses various local companies, depending on their availability – the drivers who work for his preferred firm are reliable, which is important to him.

He needs the taxi to arrive promptly as he wants to get a hot drink at the station before the train leaves.

"This pre-set button will make booking much quicker"

Ahmed calls the taxi company and finds that they have introduced an automated service which asks him to press a button on his phone if he wants to book a journey he has taken before.

"At least I can talk to a person when things go wrong"

Unfortunately, the journey details do not match, so he ends up talking to the operator. He tells them the time and destination of his trip for the morning.

"I like this driver, he's always really friendly and helpful"

The taxi arrives on time and it typically takes 20 minutes to get to the station, so he has plenty of time to catch his train at 7.30am. He knows the driver, so he sits in the front so he can chat with them.

"I prefer when they confirm their route with me"

Unfortunately, there are new road works on the main road into the town and traffic is at a stand-still. The driver suggests a different route he knows of and asks if Ahmed is happy for him to take it to avoid the queue.

"I'm glad he knew the best place to park for this platform"

Ahmed already has his ticket, so rather than dropping him outside the main station entrance, the driver takes him into the multi-story carpark where he can access the platform directly. Ahmed gives the driver a tip for helping to get him there on time and rushes to get on the train.

key journey stages

Planning

Decision to book

Booking

Waiting / Approach

Ingress

Transit

Arrival

Payment

Egress

Feedback



Lei Wei, 25

Lei Wei works in a large city centre. She is originally from China and has been living in the UK for 7 years. She has a good level of English but lacks confidence in speaking to new people or in unfamiliar situations.

She travels by tram to her office or to other city-based offices to visit clients, the tram stop is just outside her apartment building. At weekends she likes to go shopping or to travel around the UK with her 3 housemates.

Lei Wei does drive in China, but doesn't have a car in the UK as she wouldn't feel confident driving on UK roads. Her housemates have sometimes hired cars to move accommodation or for days out.

"With Uber... the drivers tend not to talk and this is much more positive for me as I sometimes struggle to understand them"

"I wish you could book a taxi to do multiple trips at a time, like moving my belongings between houses for moving"

Lei Wei has an Android smartphone, a Windows laptop (for work) and an Apple iPad. She does most things online or using an app.

When looking at new activities, places to eat and services, she always checks to see if there is an app or website to allow her to book online.

She keeps in contact with her family and friends in China by sharing photos on social media.



Travel & Transport

| Top 3 modes of transport | Top 3 reasons for taxi usage |
|--------------------------|------------------------------|
| Tram | Shopping |
| Taxi | Leisure |
| Hire car (friend) | Business |

Willingness to share a taxi

Technology and Income

Technology acceptance

Openness to experience

Budget



Lei Wei Going shopping

Lei Wei needs to go shopping for food. She has been at work and has caught the bus from work to the supermarket which isn't on her usual tram route.

Her housemates have asked her to pick up some items for them with her shopping, so she has a lot of shopping to carry.

She only lives a mile away from the supermarket and would normally walk this distance. However, her bags are heavy and she is tired from working all day.

"I will have to accept this price, although it's expensive"

When Lei Wei has finished shopping she looks at the taxi booking app on her phone. The nearest car is 5 minutes away but the price is more than she expected. She really wants to get home quickly so she books the ride straight away.

"I have no choice – I'll have to wait"

She goes to the carpark outside the supermarket and waits for the taxi to arrive. She receives notification that the driver is now 7 minutes away. It starts to rain and she can't find a place to shelter with her shopping.

"It's nice that the driver helped me – these bags are heavy"

When the taxi arrives the driver helps Lei Wei to load her shopping into the boot. They have to rush because it is raining heavily now.

"I hope I don't have to discuss the route with the driver"

Lei Wei gets into the rear of the car and checks the route they are taking at the beginning of the journey, just to be sure that they are heading in the right direction. She notices that the rain is making it difficult for the driver to see, but is relieved he slows down accordingly.

"The driver has been so good – I'll rate him 5 stars"

When they arrive at her house, the driver helps Lei Wei to unload her shopping. Lei Wei is very grateful and rates him positively on the app when she gets inside.

key journey stages

Planning

Decision to book

Booking

Waiting / Approach

Ingress

Transit

Arrival

Payment

Egress

Feedback



Lei Wei Stuck in the snow

Lei Wei has been at work, and it has been snowing. She has seen on the local news that there has been an incident on the tram line so it is closed, she will have to find another way of getting home. She has looked at other modes of public transport but none are suitable. She decides to book a taxi.

She checks her app and prices have been increased, lots of people have been affected by the tram closure. She finds a car nearby but it is very expensive.

"This is an exceptional event, I will pay more just this once"

Lei Wei has been able to book a taxi through her app but it is almost 4 times the usual cost but she has no other way of getting home. She waits inside her building for the driver to arrive.

"It is very snowy, I feel sorry for the driver but this does not seem right"

When the driver arrives she gets a message to go out to meet the driver. When she gets in to the car the driver tells her that they want her to pay extra because of the snowy conditions. The driver asks for cash up front.

"I'm not sure the driver is allowed to do that, but I don't have a choice"

Lei Wei is very uncomfortable and feels that the driver is breaking the rules, but she wants to get home and knows that there are not many other options. The driver says everyone is charging more this evening because of the situation.

"This is very scary, I want to get out"

The driver is not being careful, there is a lot of snow and it is slippery. The driver ends up skidding and hitting another vehicle. It is not a bad crash, but the driver has to get out and exchange insurance details. The driver tells Lei Wei she will have to get another taxi. She is very upset.

"That was very stressful, I'm not sure I want to use taxis again"

Lei Wei gets out of the car and asks the driver for her money back. Reluctantly the driver agrees to give her the money and the driver contacts the company to send another taxi. She has to stand outside in the snow until they arrive.

key journey stages

Planning

Decision to book

Booking

Waiting / Approach

Ingress

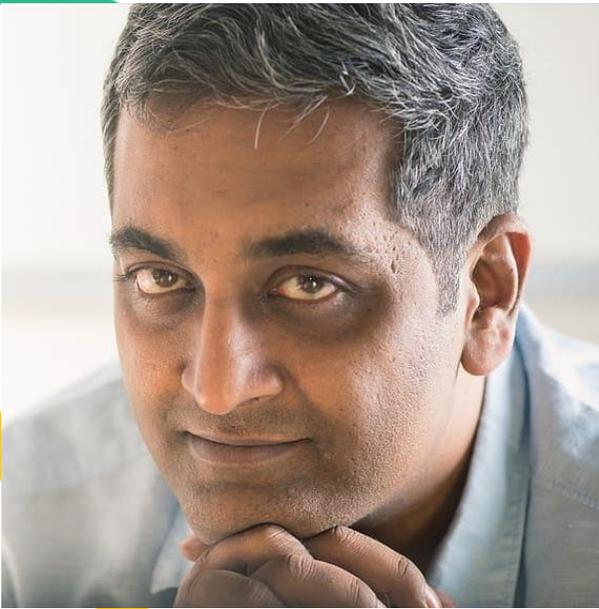
Transit

Arrival

Payment

Egress

Feedback



Michael, 38

Michael works from home part-time running a business. He is the primary carer for his two children - a daughter aged 13 and a son aged 6. His daughter, who has a visual impairment, goes to the local secondary school and his son to the primary school.

He uses taxis everyday for the school-run as his wife works late/early shifts and needs the family car. He would take a bus, but the primary school isn't on the route and his daughter struggles to use public transport when it's busy.

Michael would like go out more with the children at the weekend, but struggles if he doesn't have the family car. He's considering joining a 'car share' scheme as he likes to drive, but can't afford a second car.

"I wish taxi drivers has disability awareness training - my daughter's disability is not always obvious - I think technology could help"

"We all know the drivers well now – it's nice that we can just have a chat and they always ask the kids what they are up to"

Michael has an Apple iPhone for business and an Android phone for personal use.

The family has an Apple Mac at home and several tablet devices which all the family use.

They also have two Amazon Alexa devices, one in the kitchen and one in the home office. These help Michael's daughter to access music and other content.



Travel & Transport

| Top 3 modes of transport | Top 3 reasons for taxi usage |
|--------------------------|------------------------------|
| Taxi | Caring |
| Shared car | Business |
| Walking | Leisure |

Willingness to share a taxi



Technology and Income

Technology acceptance



Openness to experience



Budget





Michael School run

Michael takes his children to school in a taxi before returning home to work.

He has pre-booked the taxi as part of a monthly block-booking.

He knows that the taxi will be accessible for his daughter, who has a visual impairment. The vehicles have high contrast visual markings and grab handles. Most of the regular drivers are aware of his daughter's needs too.

"I wish I didn't have to remind drivers where to park"

"This driver puts you at ease when you are with the children"

"I didn't have to remind the driver this time"

"It's so busy today – we'll walk the rest of the way"

The taxi turns up at 8:15am. Michael goes out to meet the driver and asks him to turn around and park on the correct side of the road to allow Michael's daughter to enter the car without having to go out into the road - she likes to be independent.

Michael's children get themselves into the back of the car and put their seatbelts on. Michael is pleased that it is one of the better drivers, as they always greet the children and he knows that their language and conversation will be appropriate in front of them.

The first stop is his daughter's school. Michael is pleased the driver stops at the designated 'drop-off', on the correct side of the road to enable his daughter to get out safely and near to the school entrance.

The driver is happy to wait for a couple of minutes whilst Michael watches his daughter walk to the school entrance. They then continue to his son's primary school. Michael asks the driver to drop them off a little way from the school, so they can walk the rest of the way as the street is very congested.

key journey stages

Planning

Decision to book

Booking

Waiting / Approach

Ingress

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Arrival

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Egress

Feedback



Michael Business park meeting

Michael regularly visits clients at their offices. He is visiting an office at a business park he is not familiar with. His wife has the car so he takes a taxi.

The client warned Michael that the office is difficult to find, so she has emailed some directions.

Michael has checked the location on his phone, but is still unsure and hopes that the driver will know where it is. He has booked the taxi to come early to allow enough time.

"They usually take less than 10 minutes – I have plenty of time"

40 minutes before his meeting, Michael calls his regular taxi company and asks them to pick him up from his home as soon as possible. He gives the business park as the destination.

"The taxi is late but there is still time to find the office"

The taxi arrives 15 minutes later and he asks the driver if they know where the office is. The driver doesn't know it, but he knows the business park. They now have less time before the meeting starts to find the office.

"I wish the driver already knew how to get there"

Once in the car the driver comments that his SatNav isn't working properly. Michael is annoyed and now feels responsible for getting them there. He opens the email from the client on his phone and reads the directions to the driver.

"I'm feeling very stressed, I shouldn't have to give directions"

Michael starts to recognize some of the landmarks given in his client's directions, so he starts to direct the taxi driver. As they travel, Michael and the driver realise that they have taken a wrong turn and Michael doesn't know how to get back to the correct route.

"I'm late – this will make a bad impression"

They drive around for a while and Michael sees a sign for his client's office. They pull up to the office about one minute after the meeting was due to start.

key journey stages

Planning

Decision to book

Booking

Waiting / Approach

Ingress

Transit

Arrival

Payment

Egress

Feedback



John, 72

John is a pensioner who lives close to a town centre and near to several bus routes. When he retired he reluctantly gave up driving due to his eyesight deteriorating, and instead uses public transport and taxis, which he feels is safer and less stressful.

He misses the independence driving gave him and being able to drive to the seaside, but he likes to have an alcoholic drink at the pub if he feels like it and not have to worry about driving home.

John goes out daily to the shops, to his community club or to visit friends locally. Sometimes he has medical appointments. He doesn't like to ask family to help with non-essential travel, but he sometimes asks them to take him to medical appointments.

"I wouldn't mind sharing the journey with someone if it was cheaper – say more than £1 or £2 cheaper or it's not worth it"

"The apps on smartphones are so small and my eyesight isn't what it used to be, I wish there was a way to zoom in on them or they could speak to you!"

John has a smartphone which he rarely uses and only switches it on when he is out of the house and needs to be contactable. He is on a pay-as-you-go contract.

He struggles to see text on his phone and although he has attempted to use different assistive apps, he hasn't been able to make them work well for him.

John prefers to use his landline to talk to people. He uses it regularly to keep in touch with friends and family.



Travel & Transport

| Top 3 modes of transport | Top 3 reasons for taxi usage |
|--------------------------|------------------------------|
| Bus | Leisure |
| Taxi | Medical |
| Lifts with others | Shopping |

Willingness to share a taxi

Technology and Income

Technology acceptance

Openness to experience

Budget



John Hospital appointment

John has been asked to go to the local hospital for a test.

He can't get to the hospital on the bus route. He would ask friends, but doesn't want them to have to wait.

He doesn't know how long his appointment will be, but will need to book a return taxi, so will ask at the hospital reception when he's finished.

John is nervous as he doesn't know the hospital well and he has heard it is difficult to find the correct entrance.

"I wish there was an easier way to check prices up front"

"I'm glad the driver called me, I wouldn't have known where they were."

"I'm so glad the driver knows where to go"

"It's times like these I'm glad I don't drive any more"

"I feel a lot less nervous than I did before I got in the taxi"

John uses his landline phone to call around some local taxi companies to check how much the journey will cost. He finds an acceptable price and books the taxi for later that day.

When the taxi arrives, the driver gives John 3 rings to let him know he has arrived. John comes out of his house, but cannot see which vehicle is the taxi, he can't make out registration numbers and he can't see a car with a logo. After a while, the driver notices him looking into the street and calls him over.

John slowly makes his way over to the driver and says he is worried about finding the right clinic as he struggles to navigate the hospital owing to his visual impairment. Coincidentally, the driver knows the clinic well and he even checks whether John has the right documents with him for the doctor. John feels a little more relaxed and that he isn't 'on his own'.

The hospital has a one-way road system and the driver struggles to find a suitable drop-off location to avoid a long walk to John's clinic. The driver also wants to ensure John is close enough to see the hospital signage, and not to have to cross a road.

Once the driver finds a suitable place to pull over, John pays in cash and gets out. The driver reminds him of the route to the clinic and points to the entrance he needs.

key journey stages

Planning

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Lena, 50

Lena works in London as a civil servant. She lives with her partner in a commuter town, and they both own a car.

She commutes to London by train, taking an early morning service which takes over an hour. She leaves the house early and often doesn't get home until after 7pm. She drives 15 minutes to the station and usually arrives 5 minutes before the train departs. It costs a lot to park there everyday, but there are no buses direct from her house to the station.

Lena enjoys her job but finds that she is often so busy travelling from one meeting to another that she is left with little time to complete work. At the weekends, she and her partner drive to the countryside to go walking or to visit friends.

"I wish there was a cheaper way of getting to the station – parking is so expensive and often very limited – but the car is so convenient"

"I often wonder how taxi drivers choose their routes – I feel uneasy when they don't follow their satnav"

Lena has two Android smartphones – one provided by her employer and one for personal use.

She has an Apple laptop for business use. It has to go everywhere with her as it contains confidential files.

She is always relieved if there is a charger available in the taxi so she can make sure her laptop is charged.





Travel & Transport

| | |
|-----------------------------|------------------------------|
| Top 3 modes of transport | Top 3 reasons for taxi usage |
| Train | Business |
| Shared car | Leisure |
| Taxi | Holidays |
| Willingness to share a taxi | |
| | |

Technology and Income

| | |
|------------------------|--|
| Technology acceptance | |
| Openness to experience | |
| Budget | |



Lena Travelling between offices

Lena has to visit many different offices across London for meetings, often on a tight schedule.

Her employer has a booking system with an approved taxi company which she is obliged to use, so Lena only has to inform an administrator of her travel needs.

Lena has difficulty carrying around her heavy laptop and documents so would rather avoid walking where possible.

"I hope the driver parks outside so I can see them"

Lena has accepted an invite to a meeting later today, so she calls the admin team and tells them where she needs to be and when. She receives a confirmation email informing her of the vehicle details and where to meet the vehicle.

"I wish I could call the taxi driver directly"

She waits inside the building until it's time to go to the meeting point outside the main entrance. After waiting for 5 minutes, the taxi still hasn't arrived, so she calls admin who misunderstood the timings and who offers to book another taxi straight away.

"I wish the driver was quiet – it's the only time I get to think"

Lena decides it might be quicker to try and hail a Hackney cab on the street as she's seen a few drive by. She walks to where she can be easily seen and manages to flag one down in a couple of minutes, but the driver seems to want to talk to her. She finds this very difficult and tries not to engage.

"I'm glad the driver kept me updated"

It's only a 10 minute journey but there is a lot of traffic and the driver tells her there will be a short delay of about 6 minutes in reaching the destination. She would walk, but her bags are heavy and she doesn't know the way.

"How do I find out if my phone has been found?"

Lena reaches her destination, but she is now very stressed and quickly pays using the on-board card reader. As she enters the building, she realises she doesn't have her phone, she must have dropped it in the taxi. She asks to borrow a phone to call the administrator, but they've left and so she has no way of booking a taxi herself via an app (or paying for it). She hails a Hackney cab back to the station.

key journey stages

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Lena Sharing a ride

Lena's employers like to combine bookings where possible to keep costs down, so occasionally Lena has to share her journey with other people.

Usually the admin team will inform her of the person she will be sharing with in advance.

She does have the option to choose whether or not to share a journey but she feels that she should attempt to share as it is more environmentally friendly and in the long term will reduce congestion.

'It's only a short journey and it helps the environment'

'I don't want to get in - this feels awkward'

'If the driver hadn't intervened, I would get out'

'I'm glad this didn't happen at night'

'Could admin give a good rating on my behalf?'

Lena's taxi for a meeting has been booked and she's been informed that she'll be sharing the ride with two other people she doesn't know, who are going to a nearby building. She feels a little unsure.

She goes to the meeting point and finds the taxi. The other passengers are already in the taxi and they are having a loud discussion. She gets in and opens her laptop but is unable to concentrate on her emails for most of the journey.

The other passengers seem to be arguing and the driver asks them a question which seems to diffuse the situation. Lena is grateful.

The other passengers get out at their stop and Lena packs up her laptop ready to arrive at her building. She hasn't been able to prepare for the meeting and she feels unsettled by the other passengers' behaviours.

Lena would like to give the driver a tip for dealing with the situation with the other passengers but she doesn't know if this is possible through her employer's payment system and doesn't know if she is allowed to give the driver cash.

key journey stages

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Julien, 31

Julien works at a large city-based University. He regularly visits his local pub with his friends, and enjoys gigs and concerts.

He uses a wheelchair as he has a condition which causes muscle weakness. He owns an electric wheelchair, but finds that most of the places he wants to go are not accessible for it, so he mostly uses a manual wheelchair.

He lives alone three miles from his workplace. He uses taxis a lot as he gets tired easily and finds it difficult to move himself in his wheelchair when he is tired. He often uses taxis to get to work, to get to the pub, or to move between parts of the campus. If he is already out, he uses a ride hailing app on his phone, but if he's travelling from home he calls a local firm.

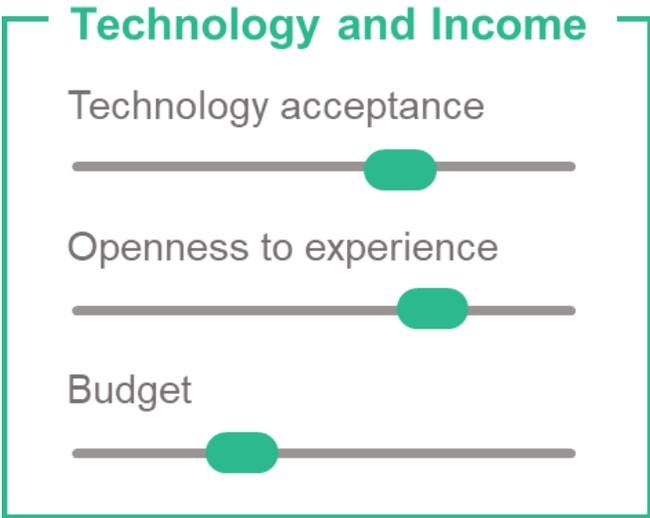
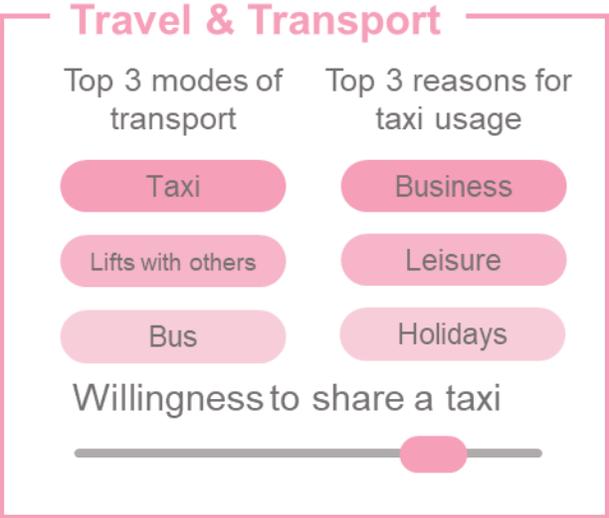
"When a driver is willing to help me with the wheelchair it makes a huge difference to my day. Just getting into and out of the taxi can really tire me out."

"A lot of drivers are unwilling to accept short journeys, but I rely on them to get around. I couldn't get there by myself."

Julien has an Apple iPhone which he uses a lot. He has an iPad which he mostly uses at home.

He has an Apple laptop for his work, sometimes he takes it home in order to work from home.

Julien has found that it often takes a lot of effort to find out if a venue or service is wheelchair accessible. He has to do a lot of online research and planning if he wants to go somewhere new.





Julien City campus meeting

Julien has been asked to go to a University building across the city for a meeting. It is just under a mile between his building and the meeting.

He is feeling tired and none of his colleagues are going to the meeting so he has no one to help him get there, he has to take a taxi.

He has found that many drivers are unwilling to take such short journeys, it takes a lot of effort to find someone who will take him.

"I hope the driver doesn't make a fuss about my wheelchair"

"I hope the driver doesn't cancel at the last minute"

"It is a relief that I didn't have to ask the driver to help."

"I feel like I should tip, but it gets very expensive over several trips"

"I am glad I was able to get a taxi, I wouldn't have made it otherwise."

Julien has booked the journey once already using a ride hailing app, but the driver cancelled. Fortunately, another driver was nearby so he booked again. He has not informed the driver that he is a wheelchair user.

He waits outside his building, he can see on the app where the driver is so he knows the driver will be there soon. He waits by a dropped kerb so that he can easily get to the vehicle.

The driver stops next to Julien, who is relieved when the driver gets out of the car to help him. The driver opens the door and Julien uses the grab handle to help transfer himself into the car. The driver puts Julien's wheelchair in the boot.

Julien thanks the driver for helping him with the wheelchair. The journey is very short, they arrive in a few minutes. The fare is very low, Julien feels like he should tip the driver for accepting the journey and helping with his wheelchair.

When they arrive at the destination, Julien asks the driver to stop right outside the door of the building, and he also asks them to set up his wheelchair for him on the pavement. After transferring himself to his wheelchair, he pays using the app, and adds a tip for the driver.

key journey stages

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Julien Going to the pub

Julien regularly meets up with his friends at his local pub, which is 1.5 miles from his house.

He knows he will need a taxi as he can't take his electric wheelchair, the pub has a small step which the electric wheelchair cannot get over.

He has booked a taxi using a local firm, he knows the drivers and knows they will help him with his wheelchair. He asks a friend to meet him at the pub to help him get from the taxi into the pub.

"It is unfair that I should pay more because I am a wheelchair user."

Julien has phoned his local taxi company, he reminds them not to send an accessible vehicle as he is using his manual wheelchair which can easily fold up to go in the boot of a regular car. The accessible vehicles are more expensive.

"I dislike having to ask for help."

When the taxi arrives, the driver is not one of the regular drivers. He doesn't get out of the car to help. Julien wheels himself to the driver's window to get his attention to ask for his help.

"This is frustrating, some drivers can be really ignorant."

The driver reluctantly gets out of the car and complains to Julien that he should have booked an accessible vehicle, he doesn't want the wheelchair to damage the interior of his boot.

"I don't want to talk to the driver, he has been so rude."

Julien feels upset during the journey, and he just wants to get to the pub so that he doesn't have to be around the driver.

"I should complain to the taxi company about discrimination"

Before they arrive at the pub, Julien tells the driver which car park entrance to use to enable him to be dropped off closest to the pub door. Fortunately, his friend is waiting by the door and helps get Julien's wheelchair out and set up for him. Julien pays cash and does not tip the driver.

key journey stages

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