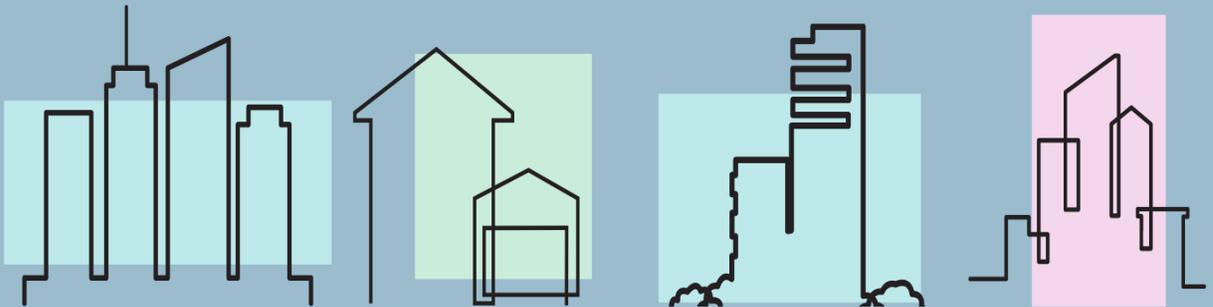


# City Smart Parking - UX Report

Danae Theocharaki



Washington D.C. is known for not having great parking features, facilities or services. Even when parking is available it is usually extremely expensive and very limited. Oftentimes, apartment buildings will not even have enough spots available for all their residents and if they do the fee itself is, if not more, equal to paying for a better apartment option. Residential parking for houses can also be challenging at times as you need special permits with varying price tags. As a city, unlike New York, its residents do tend to have cars as public transportation is not always accessible and the surrounding areas such as Maryland, Virginia and Baltimore house a lot of people who have to commute to D.C. on a daily basis for work and other purposes. When driving to a destination that is not a home or a place that will have provided parking, a driver will usually have to spend a good amount of time driving around to find a parking spot that might end up not even being close to the destination, making the person having to walk an extra amount of time to get there. With the business of the city, people get frustrated as traffic on top of having to take extra time to find parking, will throw them off schedule. Any app or website that already exists such as ParkWhiz or ParkMobile, only allow users to reserve parking spots in parking lots or garages that might not even be near the desired locations of drivers. These arranged spaces will also fill up pretty fast during the day and are small in size. So there is a need of a smart parking app that will help drivers not only find street parking and provide directions to the exact spot but would also save them time from their busy schedules. Being more efficient in terms of parking will also help with traffic issues that are prevalent in the D.C. area and another major concern that came up. Having to circle around blocks or having to slowly drive around in the narrow streets of the city leads to more cars accumulating and causing more congestion. This is yet another problem that can be solved with the City Smart Parking phone application that can even lead to potential opportunities with the city.

One of the most important things was to provide a service that was friendly to the user while driving but also provided enough support without causing any issues of frustrations. With transportations app and map applications on smartphones people are becoming more familiar with navigating and using such applications while driving as long as they provide a safe environment for the driver without making it any harder to use while driving. Being able to provide the user with everything they need, i.e. location details, directions on how to get to the destinations and easily viewable parking spot options seem to be a good functionality of the app in terms of user interaction and experience while using it.

Surprisingly, non-D.C. residents are often miscalculated or neglected from being considered as more “numbers” in terms of parking spaces. The city seems to have a lack of street parking options not because they necessarily lack the space but because it

seems that they are mostly “calculated” for people who are residents of D.C. However, those are the people who are most likely to use public means of transportation as they are more accessible and of course easier to get home or move within the city. Another frustrations that is also related to the aforementioned but was brought up often in the research was that most street parking options have very strict hour limits and restrictions that oftentimes do not make sense. Since so many people work all over D.C., including those who work in D.C. but live outside of the District it should be more apparent that parking spots have to be open and more accessible throughout the day. Finally, D.C. is known for its food scene, vibrant life and of course political scene that spreads through the city. Even though spots are open, parking regulations do not allow people to park during certain hours of the day creating a bigger need for easy and efficient access to parking.

## Methods

Based on the data and information that was collected it was important that the 3 personas that were created in the first part of this research reflect at least the average person that provided us with feedback such as students, since higher education schools are a big part of D.C., people who live outside of central D.C. but commute on a daily basis for work and extracurricular activities and of course people who need to use their cars on a regular basis for various reasons such as getting to work, school, grocery shopping, accessing areas where public transportation is not always available or safe, etc. Although a lot of the frustrations related to parking and efficiency or problems that may arise in peoples' daily lives due to these issues overlapped in all three personas, it made a lot of sense to choose to go with the persona that could potentially represent a larger group of people in terms of car use and parking spot availability. Based on feedback that was provided by a focus group, we decided to go with the persona who lives outside of D.C. in Arlington V.A. yet uses his car on a daily basis not only for work but to also go grocery shopping, out to eat, meet with friends, do activities with their partner, etc. This allows for people who are not just students, as a lot of the interviewees were split between students and younger people in the workforce, to be reflected in this persona, as he is not only concerned about getting to his daily activity (i.e. work or school) but about other issues in his life that are affected by the extra time he has to spend on a regular basis to find parking such as spending time with his wife, moving around the city more efficiently and getting on with his busy schedule.

The feedback from the focus group was also helpful in terms of understanding what people would want to see and focus on in terms of frustrations, personal goals and personality traits as well as brands and apps. Highlighting aspects in those categories that not only reflect parts of private life such as "traveling more" or "stressing less" but can also relate to what our product is trying to solve; how often does this person go out on weekends, how often do they cook at home vs. how often do they go out to eat and therefore have to drive, etc. Even some of the applications that the persona uses were chosen specifically because they relate to driving and getting to a destination (i.e. Google Maps, Wayz, etc.). The dissatisfaction that parking issues cause for people (that were shown through the interviews but also come up in daily conversation amongst people who live in the area) had to be highlighted enough through the persona in order to depict the importance of our product and to what extent it would truly make a difference in peoples' lives.

After narrowing down on a person, a journey map was created to reflect how this person will engage with our product. As soon as the City Smart Parking app is downloaded on a smartphone, the first connection between the



user and the app takes place by signing up on the app and verifying their identity.

After the initial set up, the next interaction is getting familiarized with the application during onboarding where the tips and demonstration on how to use the app are shown to the user through pop-up notifications or little chat windows on the app's interface. From then on the person can engage with the app until they reach their destination and park their car in the parking spot as the app not only provides them with parking options but also uses navigation maps to direct the user to the desired location, pay on the app and complete the whole journey on the app's interface without having to do anything else.

Through the service blueprint that was created, we can see how City Smart Parking works behind the scenes and with our users to provide them with the best possible and most efficient journey and experience while using our app. Starting from the very first step as our product is new to the market, we assume that our persona will potentially see an ad for the app and download it on their smartphone. From then on the user interacts with the interface of the app that is equipped to be efficient as our users will be also monitoring it while having to drive so we want to be safe and make it as easy as possible for them to navigate and use. Not only is the application secure and requests identify verification, which creates a sense of safety in our users as well, but the back of stage actions and support processes provide enough assistance in order to make the users' journey even more efficient (i.e. profile creation and data saving, linkable payment options through credit cards or other payment methods, collaboration with the Department of Public Works who are responsible for all parking issues in the area, etc.).

The stylistic and design options were made to reflect a modern yet friendly application that is for everyone to use. The light blue-gray color creates a calming yet bright and modern feel and without overpopulating the deliverables the few depictions of city buildings amongst houses showcase the city life and the D.C. environment as it is not only a home to government, major business and schools but also to families, young professionals, students and more. Furthermore, the pastel colors combine the three pieces together as they remain the same throughout and are a good way to differentiate and categorize key features and main points. In the journey map, the shades of gray also reflect the journey of the persona or user as they start from downloading the app all the way through parking and payment. The persona's photo is black and white as to not take up too much attention from the main points but also as to not make the design more busy. It also serves as a reminder that this is who we have based certain aspects of our product on and the person whose life we are trying to accommodate and provide a solution for but is also a 'representative' for all of our future users.

## Results/Discussion



The journey map and service blueprint especially, allowed for opportunities to arise on how we can further improve the City Smart Parking app. Since we want to make safety and priority a major part of the app, focusing on making it more efficient and easy to use will improve our end goal of showing how important having this application on your phone is. The same way that other transportation apps work such as Uber or Lyft where maps are provided within the apps themselves, we want to make sure our users are able to drive to their parking spot locations without any setbacks or issues all while staying safe. We also want to highlight the ease of using the app while driving in order to promote our concern for our users safety while being on the road and form a trusting relationship with them. So adding extra security and different map options (as some people prefer using satellite maps vs street maps, etc.) and collaborating with other services (DoPW, PayPal, etc.) can take us a step further.

Another important aspect is that our services are complicated behind the scenes as they do not only work based on our internal systems but collaborate with others as well, such as bank systems, satellites, etc. yet it is crucial to the user to not be able to notice any of these. The users get a product that is efficient enough where they do not have to worry about anything else while using it. Eliminating the concern of having to find a parking spot and knowing that moving within the city or to the city has become so much easier, less stressful and less time consuming, is also reflected through how the app interacts with our users in the front stage action and user's actions. In terms of building the product there needs to be strong engineering support behind it in order to provide the best possible experience for our customers.

A crucial part and challenging for this business would be making sure our software and product work well with all of our collaborators. Since our system is based on other back-up support working well and efficiently, establishing relationships with our collaborators or companies whose products and systems we will be using is very important in how our product will also function as we want to provide the best experience and results to our customers.

This is definitely a market that can include anyone with a car and through our interviews and focus groups we have found that it is something that affects everyone. Finding available and good priced parking in D.C., a city that has so much going on, is a topic that comes up frequently not only among people who live in the city or work here but also for visitors and even tourists. We also found out that when talking about visiting D.C. or moving here, the parking issue is something that our interviewees and even people in our focus groups will always bring up to their friends, families and

acquaintances. This is a market where our product can have great success in and be a great solution for so many people. As was mentioned in our Methods section, the persona reflects someone who can represent the daily life of D.C. residents and workers whose life relies on efficiently managing their busy schedules and plans.

## Recommendations

For the near future, a great way to improve our product would be to work on the pain points and possible solutions/opportunities mentioned in our journey map as they are not necessarily hard to include in our product but would also provide a better experience for our customers. Creating Two-Factor authentication and having the option to register the user's vehicle provides a further safety net that allows our users to rely on our product and know that we are also looking out for them while also trying to find them great parking options. A better way to find our tips and demonstrations of how to use the app on the interface is a good way to eliminate any frustrations our users might come across while interacting with it. Additionally, having different viewing options for our map can build a higher quality experience and ease peoples' anxiety while driving, knowing that they can navigate more easily and more comfortably to their parking spot location.

In the long run, some features that we can add to improve City Smart Parking can be having live chat support in case anything arises while the driver is trying to pay or after having parked and even a call support for while the user is still driving as to not have to text. Another feature could also be having a car mode enlargement, (i.e. Spotify's car mode option) where perhaps people of a bit older age or those who preferred zoomed-in options while driving, can better navigate the streets or read the pop up parking spots that will become available as they are driving to the parking spot.

Working with the Department of Public Works is a great advancement for our app as they are the ones who control the parking jurisdiction in D.C. Going a step further by potentially working with other government agencies in order to protect our customers can be something we look into for the future of our product. For example, making sure that DoPW is properly connected to law enforcement as to protect against any break-in or thefts of vehicles belonging to our customers or aid in circumstances that have happened by providing faster support - this would only be an additional option/service we would not be taking any responsibility or liability legally wise). Finally, working with companies in the future to provide better parking spots for their employees can also be a service we can look into adding on.



## Executive Summary

Washington D.C. is known for not having great parking features, facilities or services. Even when parking is available it is usually extremely expensive and very limited. Oftentimes, apartment buildings will not even have enough spots available for all their residents and if they do the fee itself is, if not more, equal to paying for a better apartment option. Residential parking for houses can also be challenging at times as you need special permits with varying price tags. As a city, unlike New York, its residents do tend to have cars as public transportation is not always accessible and the surrounding areas such as Maryland, Virginia and Baltimore house a lot of people who have to commute to D.C. on a daily basis for work and other purposes. When driving to a destination that is not a home or a place that will have provided parking, a driver will usually have to spend a good amount of time driving around to find a parking spot that might end up not even being close to the destination, making the person having to walk an extra amount of time to get there. With the business of the city, people get frustrated as traffic on top of having to take extra time to find parking, will throw them off schedule. Any app or website that already exists such as ParkWhiz or ParkMobile, only allow users to reserve parking spots in parking lots or garages that might not even be near the desired locations of drivers. These arranged spaces will also fill up pretty fast during the day and are small in size. So there is a need of a smart parking app that will help drivers not only find street parking and provide directions to the exact spot but would also save them time from their busy schedules. Being more efficient in terms of parking will also help with traffic issues that are prevalent in the D.C. area and another major concern that came up. Having to circle around blocks or having to slowly drive around in the narrow streets of the city leads to more cars accumulating and causing more congestion. This is yet another problem that can be solved with the City Smart Parking phone application that can even lead to potential opportunities with the city.

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# THOMAS MCNAMARA



"It's like looking for a needle in a haystack!"

AGE: 38  
JOB: Paralegal  
FOCUS: Marital Law  
STATUS: Married  
EDUCATION: University of Pennsylvania  
LOCATION: Arlington, VA

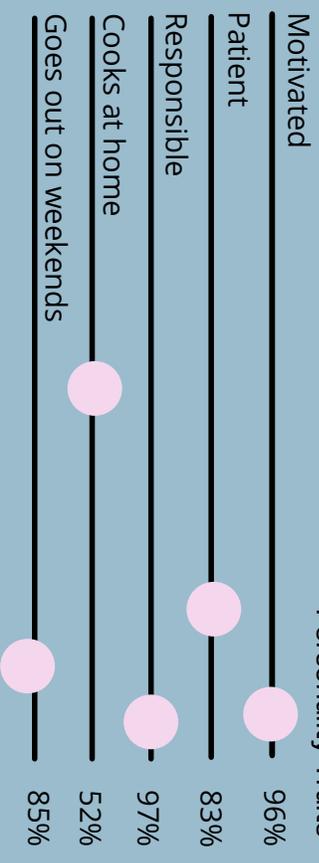
## Needs & Product Goal

Having to commute from Arlington to my office in D.C. definitely takes some planning with all the traffic and limited parking options. My office building stopped partnering with the parking facility we used to use and until they sign-up with a new one, having to find parking has become a strenuous task. Although expenses are covered, I know have to always leave earlier from my apartment in Arlington just to plan ahead for the time I'll loose from trying to find parking.

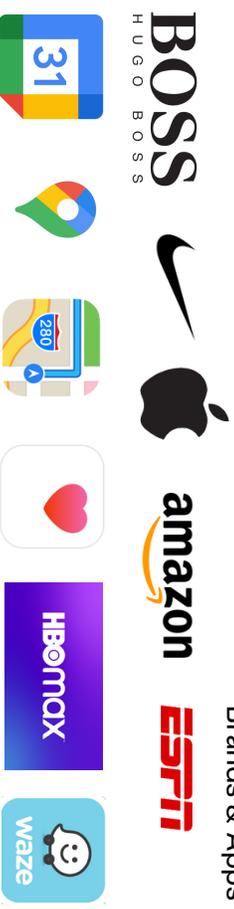
## Frustrations

- Morning routine cut short
- Spends too much time looking for parking
- By the time you will have circled around to an open parking spot someone else will have already taken it

## Personality Traits



## Brands & Apps



## Personal Goals

- Win the case he is currently working on
- Spend more time at home with his wife
- Stress less
- Travel more
- Explore more of D.C. food culture



# Service Blueprint for City Smart Parking

