

# Discovering Needs in Transportation

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# Meet Our Team: The Navigators



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How do people handle one-off transportation?

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# Problem Domain: One-Off Transportation

- Airports
- Day Trips
- Concerts
- Sports Games
- Moving Days
- Doctor's Appointments
- Emergencies



# Methodology

**Brainstorm**  
Questions about transportation for interviewees.

**Interview**  
Creating space for personal experiences and emotions to shine.

**Plan**  
How participants with diverse experiences will be chosen.

**Analyze**  
Pull key insights on their pain points and triumphs.



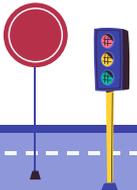
# Interview Questions

Can you describe a time when your transportation plans completely fell apart?

How did you handle transportation for your last one-off event?

Walk me through the last time you went to church?

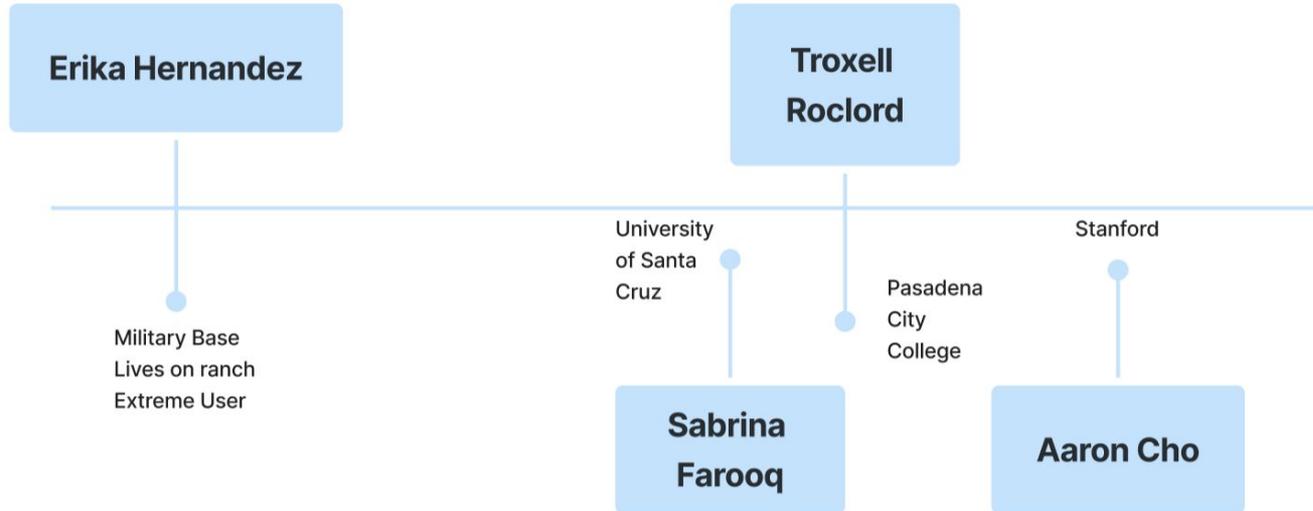
Tell us about your favorite Uber driver experience



# Meet the Movers

Compensation: Coffee

Apparatus: MacBook for notetaking, iPhone for recording



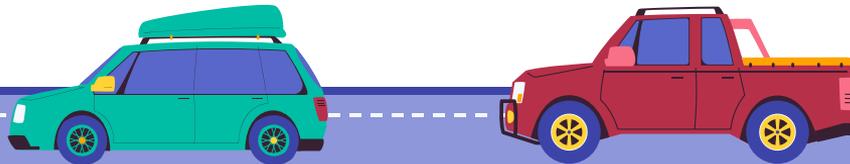
# Interview #1: Erika (extreme user)

- 23 years old
- Randomly chosen at Philz Coffee @ SJSU
- Went to school in Davis, studied Environmental Science
- Doesn't want her carbon footprint to go up
- Insightful interviewee - uses various methods of transportation regularly: **Bus, car, Uber, truck, Zipcar**
- Works at a military base, lives on ranch @ Salida (1.5 hrs away)
- Parking is an **extremely huge stressor** for her



# Extreme because...

- Lives in a **remote** location (**ranch** house in Salida, 1.5 hrs away from urban areas) - reliant on personal transportation
- Commutes **long distances** frequently (e.g., drives to military base, Idaho trip) with **challenging** road conditions
- Has encountered numerous **negative** experiences with driving: A car accident, flat tire, and stress related to traffic, parking, and navigation in cities like SF and Sacramento
- Prefers not to use **ride-sharing** alone due to **safety** concerns, which makes her dependent on either group rides or private car usage



# Say

"I like micro mobility like scooters and bikes"

"I will drive back home if there is no easy parking"

"I got in a car crash driving my friend to the airport"

"Taking ubers with friends is more comfortable"

"When i use public transport, I have to plan the trip earlier"

"If you have your car, you have more freedom, which lacks routine"

"Matching with the Uber would take TOO long"

"I don't want my carbon footprint to go up"

"The gender of an uber driver doesn't matter to me"

"Driving through SF is scary"

# Erika

Thinks parking is difficult and she is not good at it

Taking an uber alone is less safe

Crashing car = expensive

Bad experiences come and go, accidents are the worst possibility

Planning a trip with public transport forces her to be on top of things and accountable

Parallel parking is hard

Safety with other cars is her priority

Parking a bigger car is harder

The vibe of the driver is more important than the gender

Thinks public transportation might be a better option because of not having to drive, getting there at a set time, knowing the hours

# Think

Drove back home when she couldn't find parking

Took ubers only when in the city

When she missed the bus, she would have to uber to school

Parking difficulties impact her decisions on where to shop

Used Zipcar to go somewhere further in college

Busy traffic impacts her choices for when to drive

She leaves earlier for work to get good/easy parking

Planned the transportation afternoon of the concert day

Tries to prevent accidents as much as she can

She leaves early when going to the store to look for parking nearby

Anxious about parking

Felt uncomfortable when an uber driver wanted to go home with them

Scared of other drivers during conflict

Might feel scared to rideshare with strangers

With a car, she feels encouraged to get off campus more

She leaves early when going to the store to look for parking nearby

She feels safest in an uber when the uber driver doesn't talk to you

Uncomfortable while driving a bigger car that's not hers (at work)

Might have felt uncomfortable telling her class she drove because she studied environmental science

Feels public transport forces her to have a routine

# Do

# Feel

## Say

“The gender of an uber driver doesn't matter to me”

“When i use public transport, I have to plan the trip earlier”

“I will drive back home if there is no easy parking”

## Think

The vibe of the driver is more important than the gender

Thinks public transportation might be a better option because of not having to drive, getting there at a set time, knowing the hours

Drove back home when she couldn't find parking

She leaves earlier for work to get good/easy parking

Parking difficulties impact her decisions on where to shop

She feels safest in an uber when the uber driver doesn't talk to you

Feels scared to rideshare with strangers

Feels public transport forces her to have a routine

## Do

## Feel

# Key Insights

Erica's heavy reliance on personal vehicles, combined with **stress over parking and traffic**, suggests a lack of accessible and stress-free transportation options

Significant safety concerns with ride-sharing, particularly when alone, emphasize a gap in the feeling of safety for individual travelers

## We Wonder If This Means...

riding with semi-trusted acquaintances in a ride-sharing model would make individual travelers like Erica feel more comfortable.

the pros of owning a car can be integrated into a non-car owning experience.



# Interview #2:

## Sabrina & Troxell (couple)

### Sabrina

- 26 years old
- From Los Angeles, CA
- Randomly chosen at Philz Coffee @ SJSU
- Attends UC Santa Cruz
- Worked in New York

### Troxell

- 24 years old
- From Los Angeles, CA
- Randomly chosen at Philz Coffee @ SJSU
- Goes to Pasadena City College
- Has lived in Sweden and Washington DC.



# Say

LA trying to add metro police to improve the situation / make it cooler

LA Transit: very dirty, open drug use, homelessness, crime, unsafe

NYC: feels cleaner and safer although it may also be dirty and is more used. highlights: extensive, closes later

People are a safety net, and LA transit had less people than NYC.

Sabrina was grabbed by someone

Goes into a place knowing what the transportation system looks like (through word of mouth) → come into the place prepared to learn

"My dad is uncomfortable with me taking public transportation"

Ridesharing with strangers is popular on Craigslist "rideshare" section (cost-saving, lonely)

the perception of public transit system in LA is very different from NYC

"Cars are a burden. But its the only way around"

She may need to consider public transportation because super traffic → cheaper than driving car (bc student pass) in Santa Cruz

# Sabrina

Public transit sucks in LA.

Public transit in LA has a negative, dirty stigma. Eyebrow raiser.

Thinks the number of public toilets decreased to deter homeless people

never really thinks about public transit as an option

Prioritizes cleanliness, time, and ideally one mode of transport from source to destination

family emphasized public transportation is for emergencies only

Public transit does not bring you from source to destination. Swapping between forms of public transportation is too much hassle and time.

Had great uber experiences (free stuff, down to party): "Free cigarettes packs, weed, etc."

Thinks it's inhumane to have to hold your pee

Thinks the challenges to transportation is: parking, cost

Prefers Apple Maps over Google Maps because it tells you what you need to know in the right time (whereas scrambling in Google Maps)

If it's somewhere far and parking was difficult, she would rather not go to the event than uber there as costly (e.g. beach in LA)

Telling other people you use public transport is not a socially smart move.

Hates when ubers drive slow

Uber is too expensive, not a regular / affordable mode of transit. For one-offs.

NYC has the closest to ideal public transportation system

# Think

took 3 hours of public transit to a beach in LA, switched trains 2-3 times, cutting into beach time

Would fly over drive to LA because of time and can rack up flight points

When she can't find street parking, she loops around in residential areas or park into somewhere else (grocery stores). Garage only if necessary.

Brought conversation back to disliking public transportation frequently.

Uses car to get around in South Bay

Student at Santa Cruz, but hasn't used public transportation here yet.

Takes public transport ONLY if necessity

Brought car with her from LA to Santa Cruz

Tries to drive everywhere, public transit only if necessary

Despite the length of beach transit, decided to use public transit to go back home that day.

Comfortable ridesharing with another SC student.

Feels degraded when she has to hold her pee

Might feel obligated to take a car because "it's the only way around"

Carpooling with strangers to something like LA is "too hippie"

Would prefer to go alone, but if need to save money, ridesharing with another student is ok as there is a system...

Extremely passionate that there needs to be a better way to pee in cities.

Feels uncomfortable with the experience of ride-sharing with strangers.

Feels frustrated with parking in LA.

Feels comfortable with routine of car

Feels Apple Maps has better timing of directions

# Do

# Feel

# Sabrina

## Say

LA Transit: very dirty, open drug use, homelessness, crime, unsafe

"My dad is uncomfortable with me taking public transportation"

"Cars are a burden. But its the only way around"

## Think

Prioritizes cleanliness, time, and ideally one mode of transport from source to destination

Public transit does not bring you from source to destination. Swapping between forms of public transportation is too much hassle and time.

if it's somewhere far and parking was difficult, she would rather not go to the event than uber there as costly (e.g. beach in LA)

## Do

took 3 hours of public transit to a beach in LA, switched trains 2-3 times, cutting into beach time

Takes public transport ONLY if necessary

When she can't find street parking, she loops around in residential areas or park into somewhere else (grocery stores). Garage only if necessary.

## Feel

Feels comfortable with routine of car

Feels frustrated with parking in LA.

Extremely passionate that there needs to be a better way to pee in cities.

# Say

LA public transit is extremely slow.	Public transit in Stockholm had stops <u>everywhere</u> .	Enjoys chatting with Uber drivers.	Post-COVID, Uber has gotten more expensive.
Parking in LA is difficult, always a hassle for parking.	Wouldn't be willing to carpool with strangers to LA.	Public transit in Stockholm was "always on time"	LA public transportation routes are "never where you need to go"
Stockholm roads not made for cars, public transit made the most sense.	LA public transit has open drug use.	Will take flights to SJC from now on to avoid unreliable Amtrak.	Cars are a burden but only way to get around in LA

# Troxell

Public transit sucks in LA.	Amtrak is unreliable (his ticket got canceled the day of).	Public transit in LA has a negative, dirty stigma. Eyebrow raiser.	Telling other people you use public transport is not a socially smart move.
Public transit does not bring you from source to destination.	Uber is too expensive, not a regular / affordable mode of transit. For one-offs.	Public transit in Stockholm worked well because it could get you close to anywhere in the city	
Other cities than LA, such as Stockholm and Washington DC, have better public transport systems	Challenges of driving: time to get to the place varies	Thinks there should be more public and free locations to pee	

# Think

Got a car as a result of the public transit difficulties after moving to LA.	Used to take shuttle / train to LAX, now has a family member to drive him.	Left car in LA when traveling to Bay since parking is expensive on Santa Cruz campus.	Took Amtrak to Bay, \$67 each way, took 12 hours. Amtrak was cancelled morning of.
Almost stood up to rant about parking.	Booked flight out of SJC as a result of canceled Amtrak	Brought conversation back to disliking public transportation frequently.	Parked a mile away from Laguna bBach due to difficulty finding parking.
Occasionally check the parking app to see where he can park when looking for parking.	Booked a 12 hour Amtrak because it was the cheapest option.	Regularly parks 1+ miles from beach in residential neighborhoods	

Feels extremely frustrated with parking in LA.	Feels that public transit isn't worth the savings	Dignity prevented him from saving money by carpooling	Feels Uber Share option has become much less affordable in last few years
Frustrating when Amtrak ticket got canceled, but was okay because he'd rather take a flight than 6 hr train	Feels uncomfortable with the experience of ride-sharing with strangers.	Feels public transit, especially for longer journeys, is becoming less affordable	
Feels that public transit is an unenjoyable experience	Relieved to finally have his own car given he lives in LA now	Feels tiresome when he needs to take multiple modes of transport	

# Do

# Feel

Say

Troxell

Think

Wouldn't be willing to carpool with strangers to SF.

Will take flights to SJC from now on to avoid unreliable Amtrak.

Cars are a burden but only way to get around in LA

Challenges of driving in LA: time to get to the place varies

Uber is too expensive, not a regular / affordable mode of transit. For one-offs.

Public transit in Stockholm worked well because it could get you close to anywhere in the city

Almost stood up to rant about parking.

Took cheapest Amtrak to Bay, \$67 each way, took 12 hours. Amtrak was cancelled morning of.

Regularly parks 1+ miles from beach in residential neighborhoods

Feels extremely frustrated with parking in LA.

Relieved to finally have his own car given he lives in LA now

Feels that public transit isn't worth the savings

Do

Feel

# Key Insights

Public transportation in LA is unclean, stigmatized, and often slow or inconsistent.

Ubers have become unaffordable since COVID.

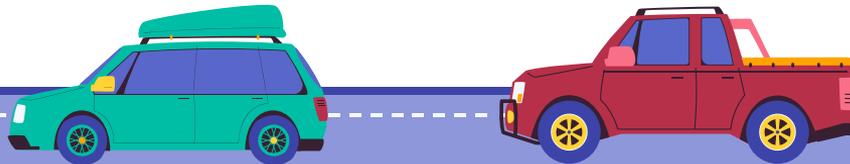
Los Angeles residents are often forced to resort to cars, but finding parking is often very hard.

Sabrina and Troxell brought up that the search for public restrooms when needing to pee is degrading and inconvenient, and specifically asked us to make a solution.

## We Wonder If This Means...

Parking is an active deterrent for making certain trips.

There is a gap in the public restroom system



# Interview #3:

## Aaron Cho

- 21 years old
- Hometown: LA
- Stanford BS Symsys MS CS
- Part of the Flying Treehouse and InterVarsity (IV) Christian fellowship
- IV previously organized Sunday church rides via upperclassman private cars to different churches; now to the same church via the church's shuttle

Interview conducted at Wilbur, Stanford CA



# Say

Certain upperclassmen had cars, but not everyone could make church every Sunday so organizers would always have to organize, nothing was for sure	With the bus shuttle, the group had to leave right after service rather than spending time with the church community. With student drivers, there was no rush.	Roughly the same amount of members before and after	Lift would have been tough for the friend in the wheelchair as he is paralyzed from the waist down
Feedback on shuttle: generally positive feedback. Always space on bus, simple, comfortable, air conditioned	good for everyone to go to same church from a community perspective, but also good to be able to go to different churches.	Shuttle is reliable and can fit about 25 people	People will show up even if they didn't like the slack message so it's hard to gauge numbers
The shuttle gives ride to opportunities, he has seen people sit next to each other who didn't know each other before.	He previously used a ridesharing matching service and would continue to use it but now it's gone for some reason	Before shuttle service when they organized their own rides, there would be a late car for people who were running late	In the previous years, the shuttle has always shown up and the shuttle never reached full capacity
Parents are afraid about him riding metro back home at night because it is scary and dangerous	Miscommunication with the shuttle service, leading to thinking a 14-person bus is coming, causing stress	Church group went to Yaga for lunch afterwards, but it was hard to find a table because it was so crowded and they couldn't fit all the people	

# Aaron

Public transport is unsanitary/dangerous, Uber feels safer.	Thinks the process with the shuttle going forwards is pretty automatic given already laid the ground the first week and the details doesn't change per week	Drivers tend to be pretty cool when he talks to them on the way to the airport	Maybe back then, it might be more fun when another student is driving and it feels more college-y.
He doesn't think shuttle helps build relationships, mostly they are built at brunch afterwards.	He thinks the rideshare matching systems that present massive spreadsheets are tricky to deal with	Thinks before the shuttle, the commute may have been more fun as another student is driving and feels more college-y	Shuttle makes it more inclusive. Shuttle is easier to invite newcomers, because it resembles an actual bus situation. Barrier of entry is harder for new members if they have to get in someone's personal car than a communal shuttle
Thinks other communities probably use the shuttle service for getting to church too	Some people have preferences for other churches, but in his experience no church is perfect and not everyone will unanimously love a church. Easier and better to just commit to one church.	As a college student, would not want to drive/Uber alone to a church just because he thinks a big part of church in college is the community and going with friends.	He thinks IV pays the church for the shuttle service, so it's a contract kind of thing. He doesn't see an issue with overreliance with the service because he feels they can always cut ties or shift to something different
He likes how organized and routinized the church shuttle is (East campus 10:15, west campus 10:30)			

# Think

# Do

Try to find means to get off campus to an off campus church	Back then it was individual older IV members who owned cars would coordinate Some weeks people wanted to go to different churches, then would try to figure out rides for everyone	On the way back from concert in LA: rode the metro + smelt bad, people yelling, felt silly they were carrying everything and navigating their wheelchair friend on the train. Didn't pay for train because LA trains are "chill like that"	Transportation to a concert in LA: 1000+ people, \$75 for parking, streets blocked off => wanted to do a picnic at the event but also brought picnic chairs because one friend was in a wheelchair + carry cooler => mum drove because metro would have been a hassle
For past 2 years, been a part of IV as a member/participant. This year, church rides coordinator with friend Sophia	Found a church most people from the fellowship enjoyed (New Beginnings)	He communicates with the church via email, chatted the week before. Gave their phone numbers and received status updates from the bus driver	He would try to intentionally get into his friends' cars as he preferred being with his friends on the ride
His church ride coordinator Sophia thankfully had a car and drove it to the pick up spot in case extra space was needed	Coordinated with the new church to get shuttle service that they offer. Shuttle is Stanford specific, only stops at Stanford	Before the shuttle, members of the church would sometimes grab food outside	Now, instead of individual upperclassmen driving, it is a bus shuttle that comes from a church they like in redwood city
If the shuttle reaches full capacity, he is ready to have a contingency plan but it hasn't happened so far	Ridesharing to airport: he usually goes on dorm GC or Fizz to find someone to ride with and out cost	The group would go eat at a dining hall after coming back from church. Before and now.	

Liked riding Ubers when he was young because it felt cool	Enjoy uber when there is 90s rap (he shazamed the song and still listens to it) and driver had strawberry candles	He doesn't understand why rideshare matching services always disappear. He enjoys them himself	Likes freeriding
Happy that the transportation is simpler logistically	Sometimes too shy to chat, with newcomers and isn't sure if they would want to chat. Worried that newcomers sometimes don't feel included	Stressed because it's hard to gauge how many people need rides because some people don't like the slack message but still come	Relieved when the shuttle arrived as the 24 person shuttle rather than 14 person shuttle on the first week of school
This week was the first week he was church rides coordinator and it was very stressful figuring out logistics because the church told them they are sending a 14 person bus (rather than the 24 person bus they previously sent) but there's 15 likes on the message for going to church so they needed to figure out another car	Used a rideshare matching service previously and was matched with someone and given the person's contact information, and the users figure out the ride by themselves	Stressing/overthinking about logistics on Saturday night for the next day when the shuttle was 14 person	Ridesharing with anyone in Palo Alto region would be quite different, but riding with Stanford students feels like you have more in common.

# Feel

## Say

With the bus shuttle, the group had to leave right after service rather than spending time with the church community. With student drivers, there was no rush.

good for everyone to go to same church from a community perspective, but also good to be able to go to different churches.

People will show up even if they didn't like the slack message so it's hard to gauge numbers

If the shuttle reaches full capacity, he is ready to have a contingency plan but it hasn't happened so far

Ridesharing to airport: he usually goes on dorm GC or Fizz to find someone to ride with and cut cost

He would try to intentionally get into his friends' cars as he preferred being with his friends on the ride

## Do

## Think

Thinks before the shuttle, the commute may have been more fun as another student is driving and feels more college-y

Some people have preferences for other churches, but in his experience no church is perfect and not everyone will unanimously love a church. Easier and better to just commit to one church.

As a college student, would not want to drive/Uber alone to a church just because he thinks a big part of church in college is the community and going with friends.

Shuttle makes it more inclusive. Shuttle is easier to invite newcomers, because it resembles an actual bus situation. Barrier of entry is harder for new members if they have to get in someones personal car than a communal shuttle

Sometimes too shy to chat with newcomers and isn't sure if they would want to chat. Worried that newcomers sometimes don't feel included

Happy that the transportation is simpler logistically

He doesn't understand why rideshare matching services always disappear. He enjoys them himself

Ridesharing with anyone in Palo Alto region would be quite different, but riding with Stanford students feels like you have more in common.

## Feel

# Key Insights

## Key Insights

- The bus shuttle makes the experience **more inclusive** to newcomers, but the commute in private cars made the experience **more flexible, fun, and college-y**, thereby creating **community** between the fellowship members and the church
- Individuals prefer some churches over others, but it's easier and better to commit to one church for **simpler logistics** and **community** building purposes.
- There is less in common when ridesharing with anyone in Palo Alto versus with another Stanford student

## We wonder if this means...

- There is value in sharing rides in smaller, more intimate settings
- Smaller shared ride units allows for greater variety of location options for clubs/affinity groups





# Interview #4: Uber Boi



# Key Insights



# Empathy Map

(don't go in too much detail)



# Highlight of Empathy Map



# Recurring Themes

Safety, Comfort, Price and Time

Group vs. Alone Preferences

Public Transport Limitations

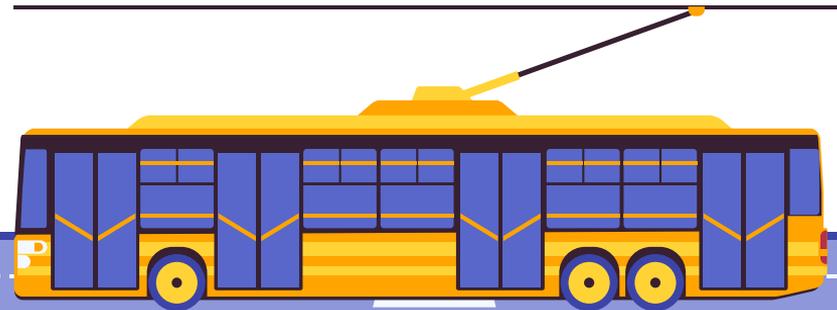
Flexibility vs. Predictability

Parking Stress and Adaptation



# Next Steps

- Exploring effective ways of creating safe, reliable transportation options in areas with limited infrastructure while maintaining convenience.
- We've noticed patterns of discomfort and hesitance, especially around safety and navigation—how can we make the transportation experience feel secure and predictable?
- Learning from more diverse user groups to validate or challenge our initial assumptions about transportation needs and preferences.
- Prototyping and exploring new transportation concepts that could address specific challenges like parking stress, group safety, and routine predictability.



THANK YOU!

**QUESTIONS?**



# Appendix

<https://www.sfmta.com/getting-around-san-francisco>

<https://www.seamlessbayarea.org/>

