# Trip Planning
## in Seattle's Public Transportation System

Design 383, Summer 2014
Jerissa Lumansoc, Nicole Rimando, Anne Zheng

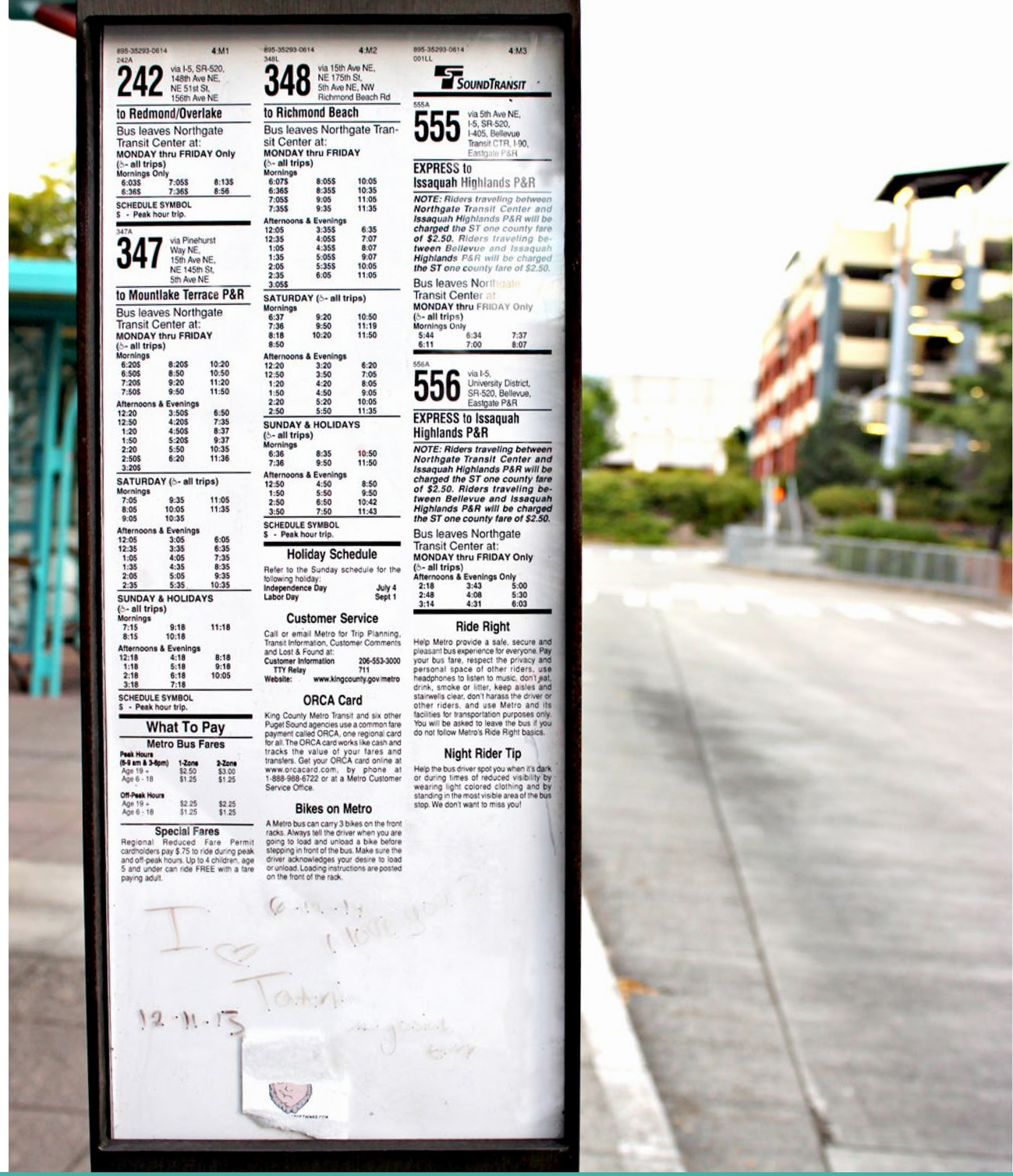
# What is the future of Trip Planning?

# Research

## Plan

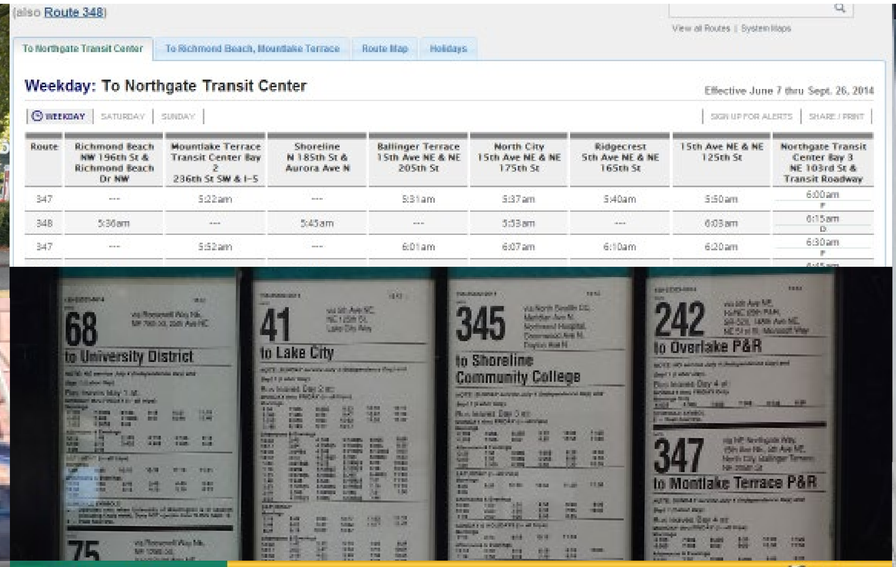
Obtain a better understanding of trip planning in Seattle's public transportation **by exploring**:

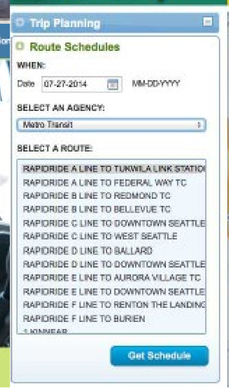
1. Existing resources
2. Public transportation apps
3. Rider reports

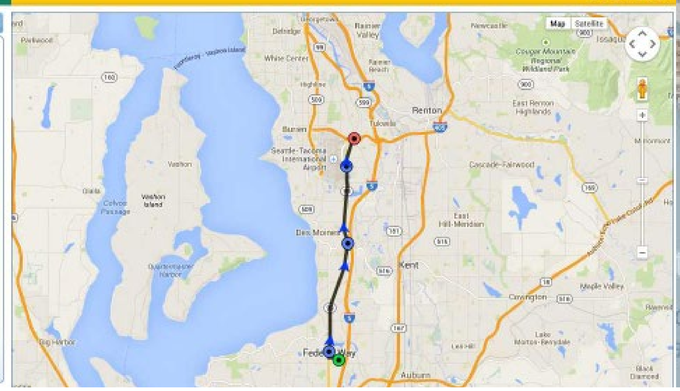


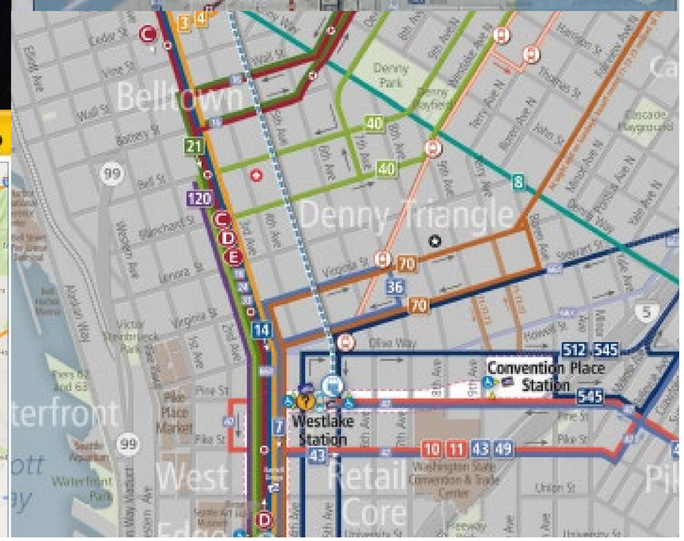
# Research

## Existing Resources



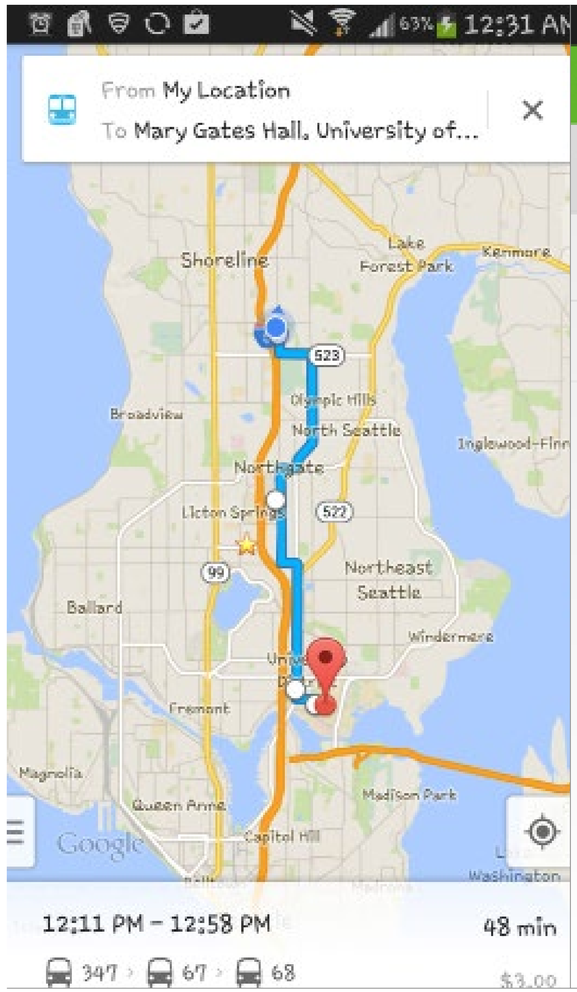


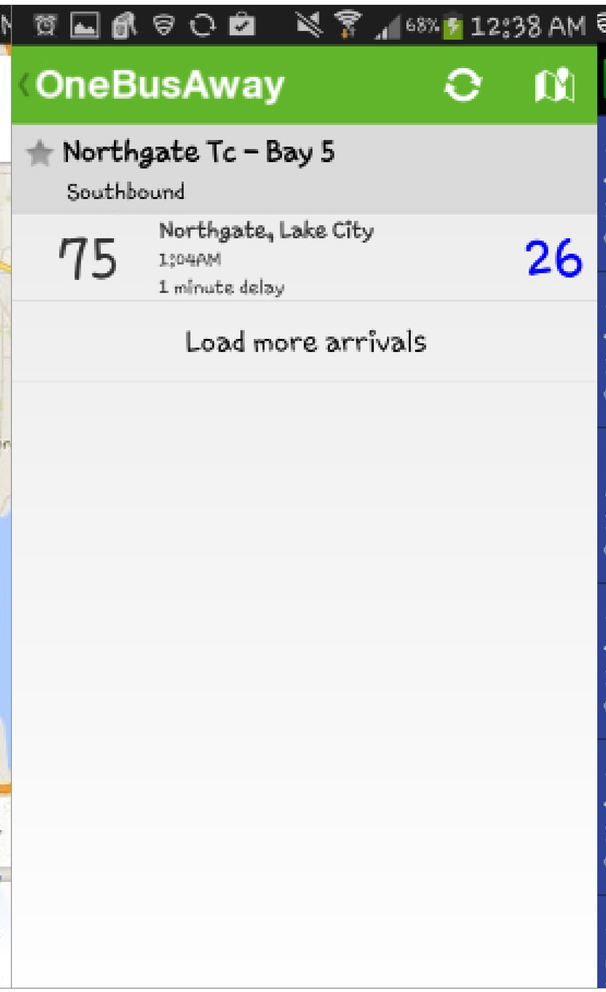



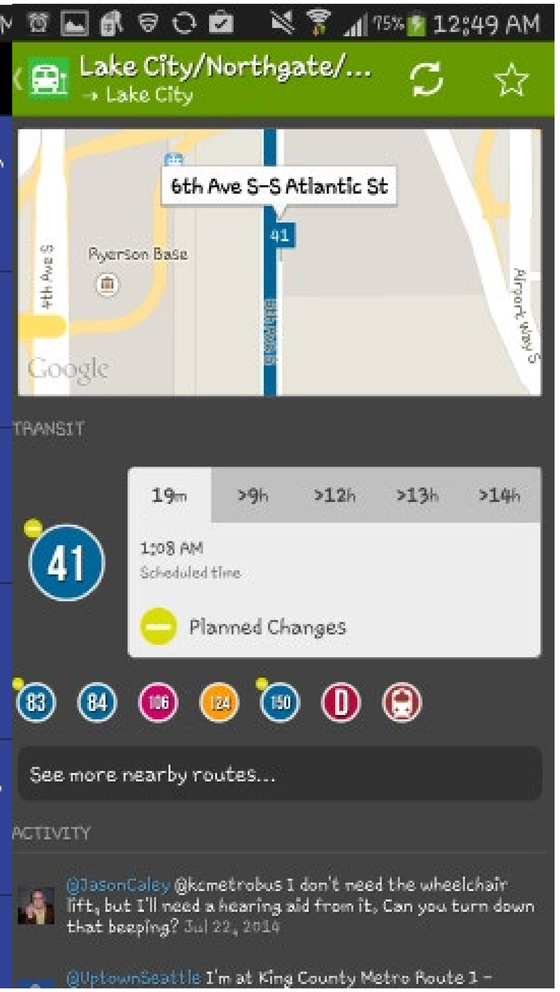



# Research

## Existing Applications



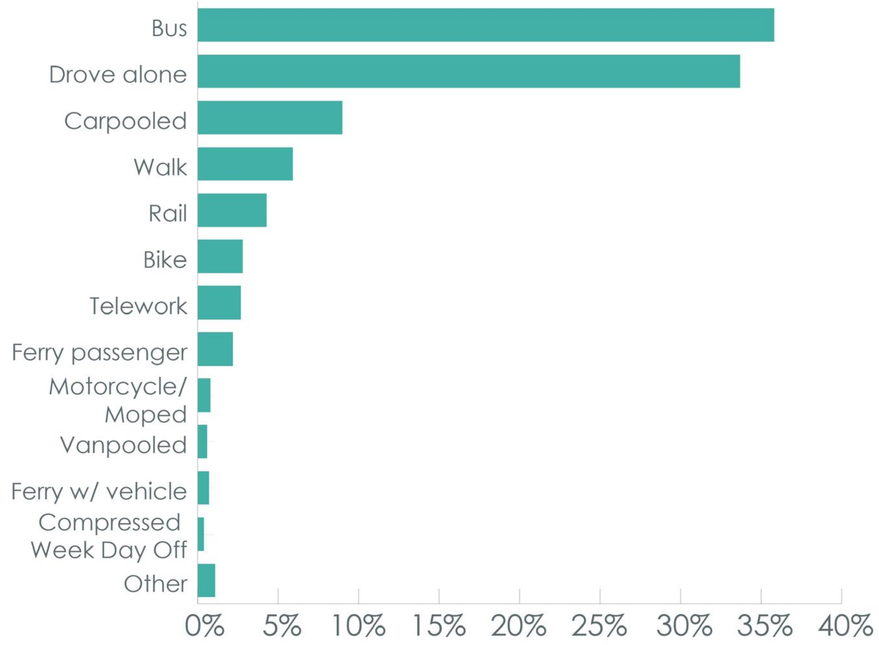


# Research

## Rider Reports

**Sources:**
Wagner
Census Bureau
Metro Rider/Non-Rider Survey
Seattle's Transit Master Plan

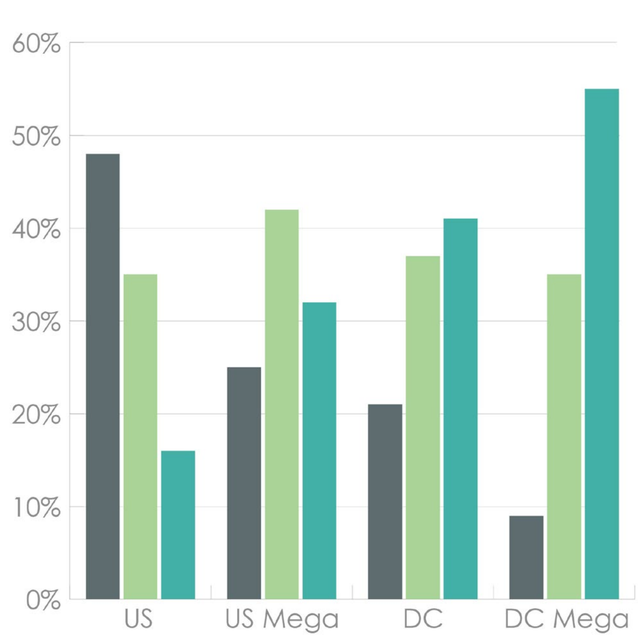
### Center City Commute Mode Share, % of Trips by Mode for Employees Starting Work Between 6AM and 9AM (2010)



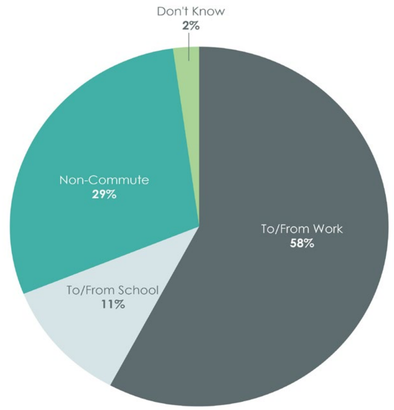

### Travel Hours by Rider Status

| | Regular Riders n = 1,207 nw = 887 (A) | Frequent Regular (n = 776) (nw = 573) (B) | Moderate Regular (n = 420) (nw = 304) (C) | Infrequent Riders (n = 188) (nw = 508) (D) |
|---|---|---|---|---|
| Peak & Off-Peak | 79% (D) | 82% (C) | 74% | 65% |
| Peak Only | 11% | 12% | 8% | 8% |
| Off-Peak Only | 10% | 6% | 18% (B) | 27% (A) |

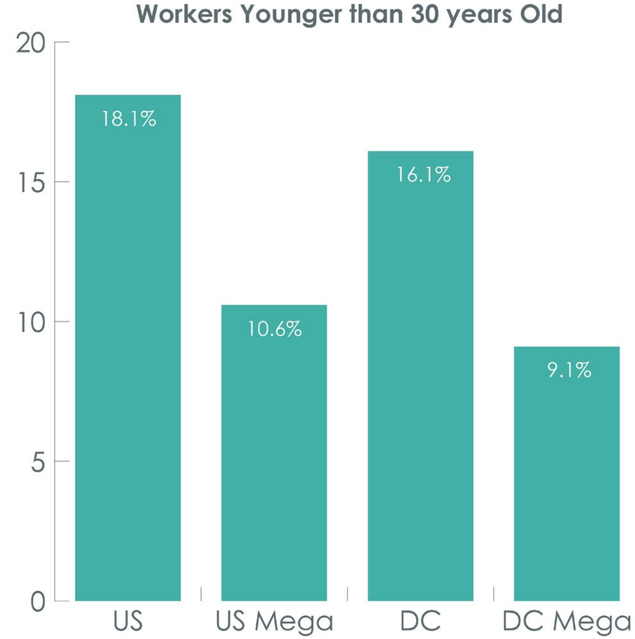
### Wages/Salary Income




### Why People Ride Metro Transit




### Workers Younger than 30 years Old



# Research

## Rider Reports

Frequent commuters are likely to be young and middle class.

A majority of riders:

- travel on bus or drive
- ride both peak and off-peak hours
- travel for work and/or school

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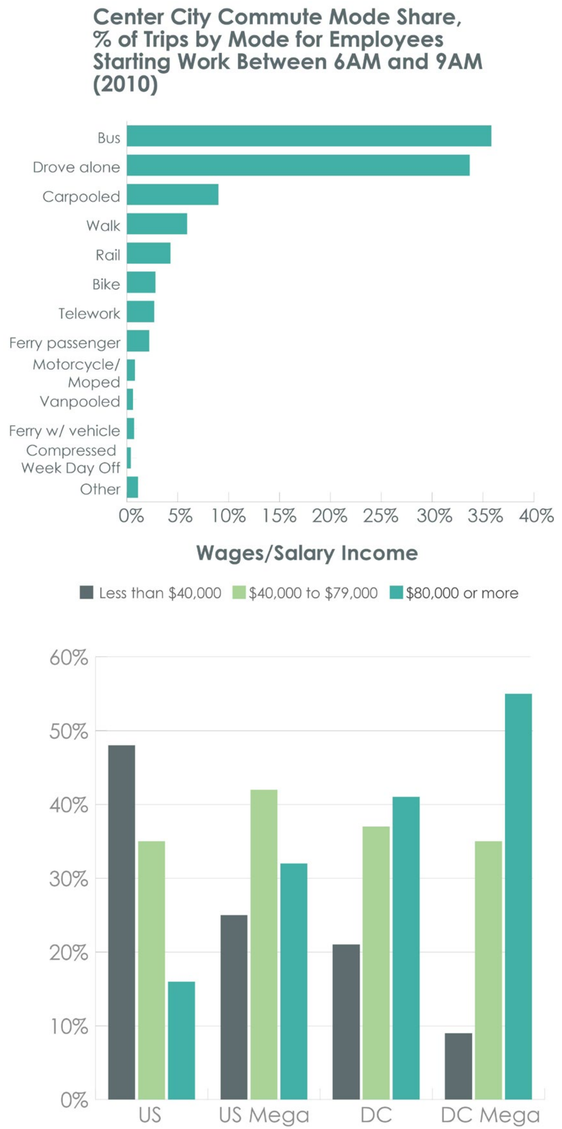
Census Bureau
Metro Rider/Non-Rider Survey
Seattle's Transit Master Plan

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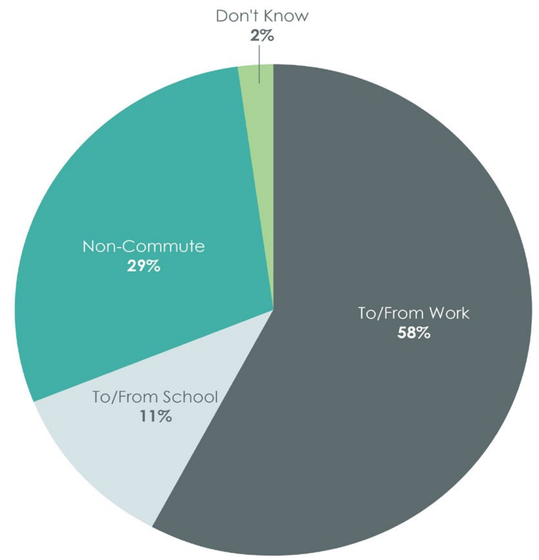
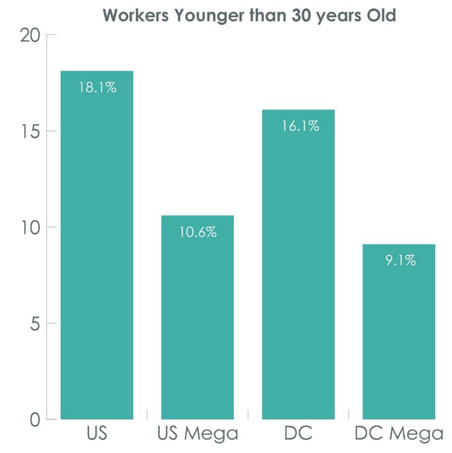


# Research

## Insights

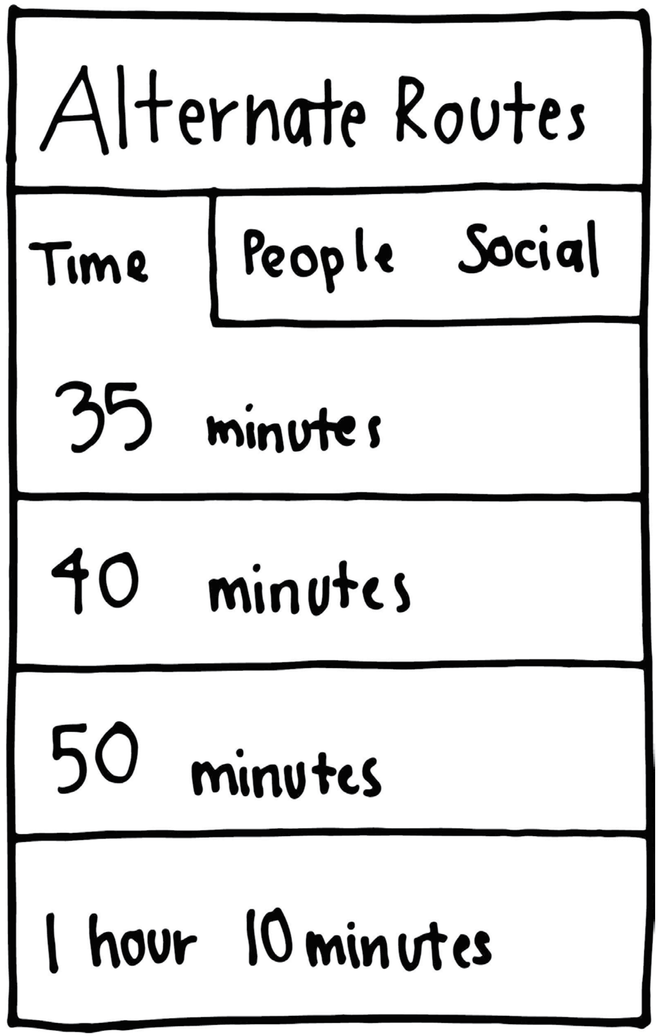
We have defined:

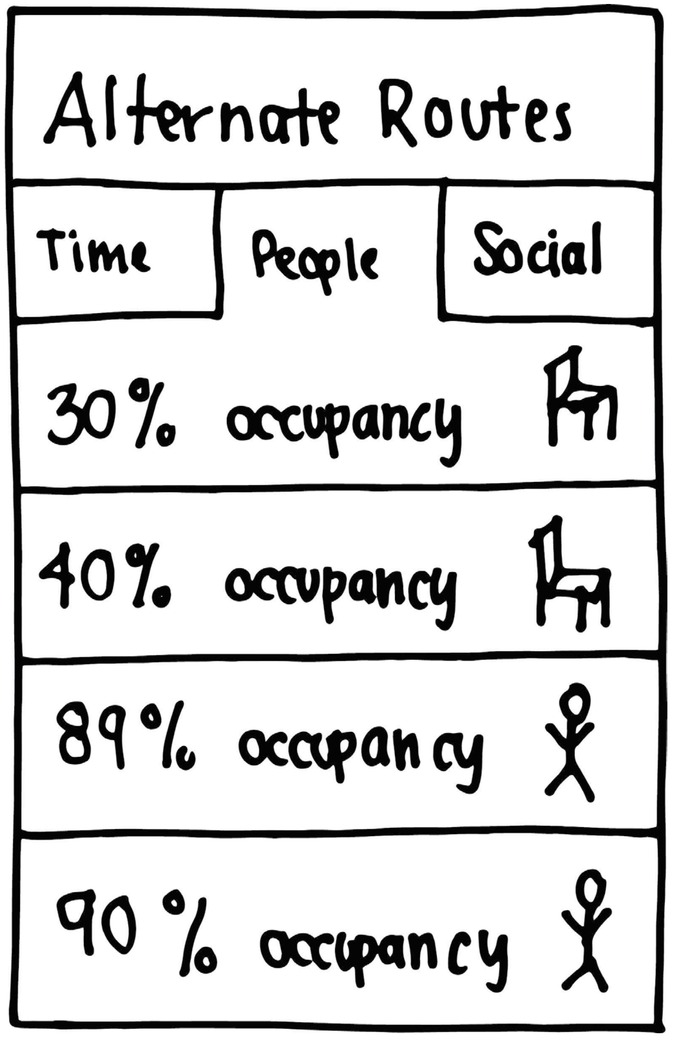
- Seattle's Public Transportation System services
- other public transportation applications services
- who are important in Seattle's Public Transportation System

What if decision making could be...**automated**...

EXIT 171
NE 71st St
NE 65th St
1 MILE

# Factor Based Trip Planning

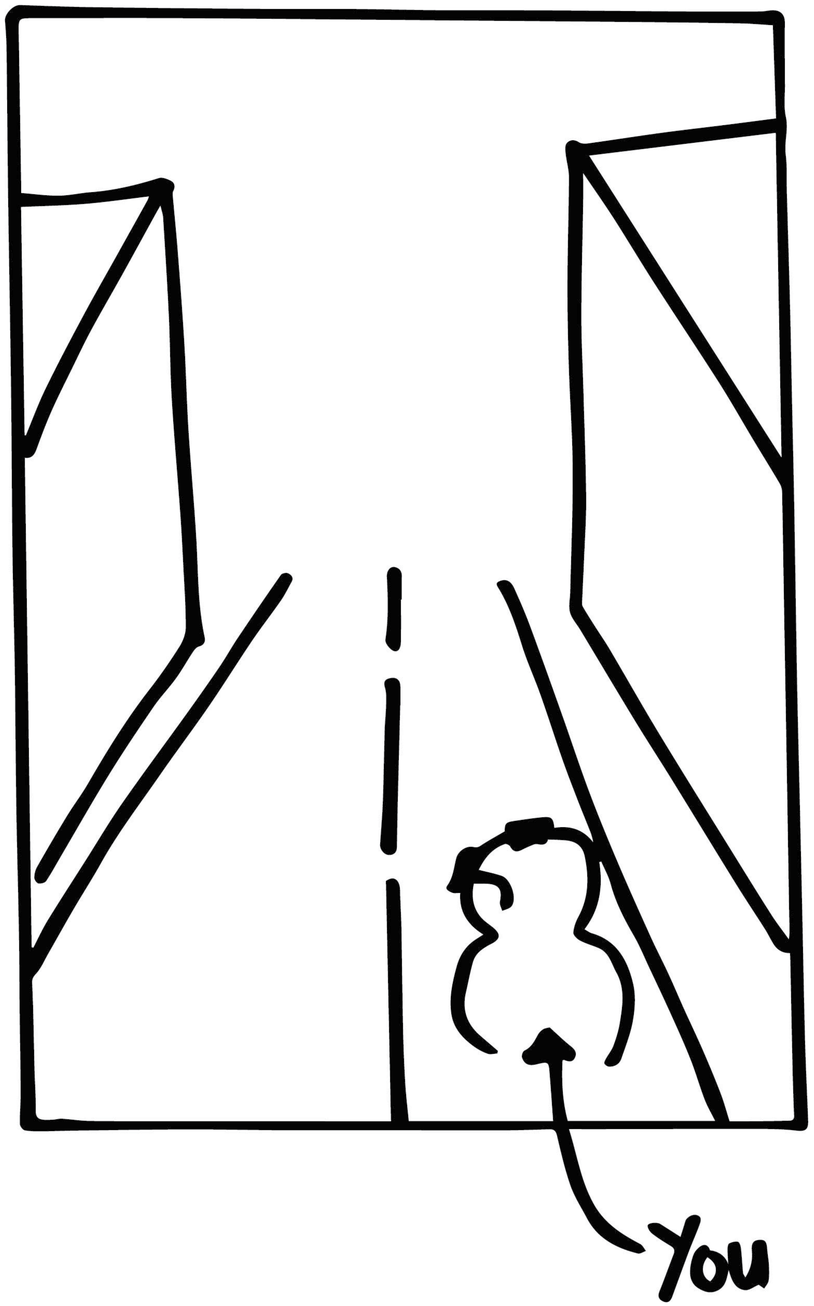


What if a map could
show...**what I see**...

# First Person Perspective Map

Show a visual in **first person perspective of landmarks**, rather than street names.



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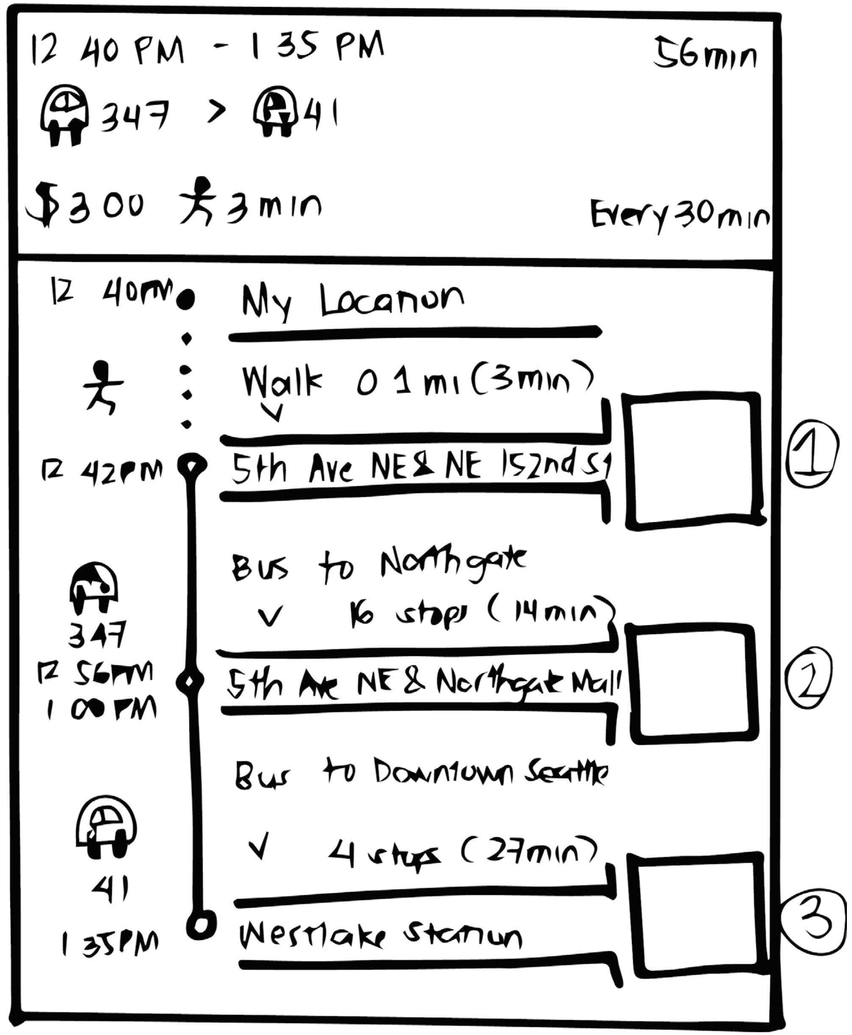
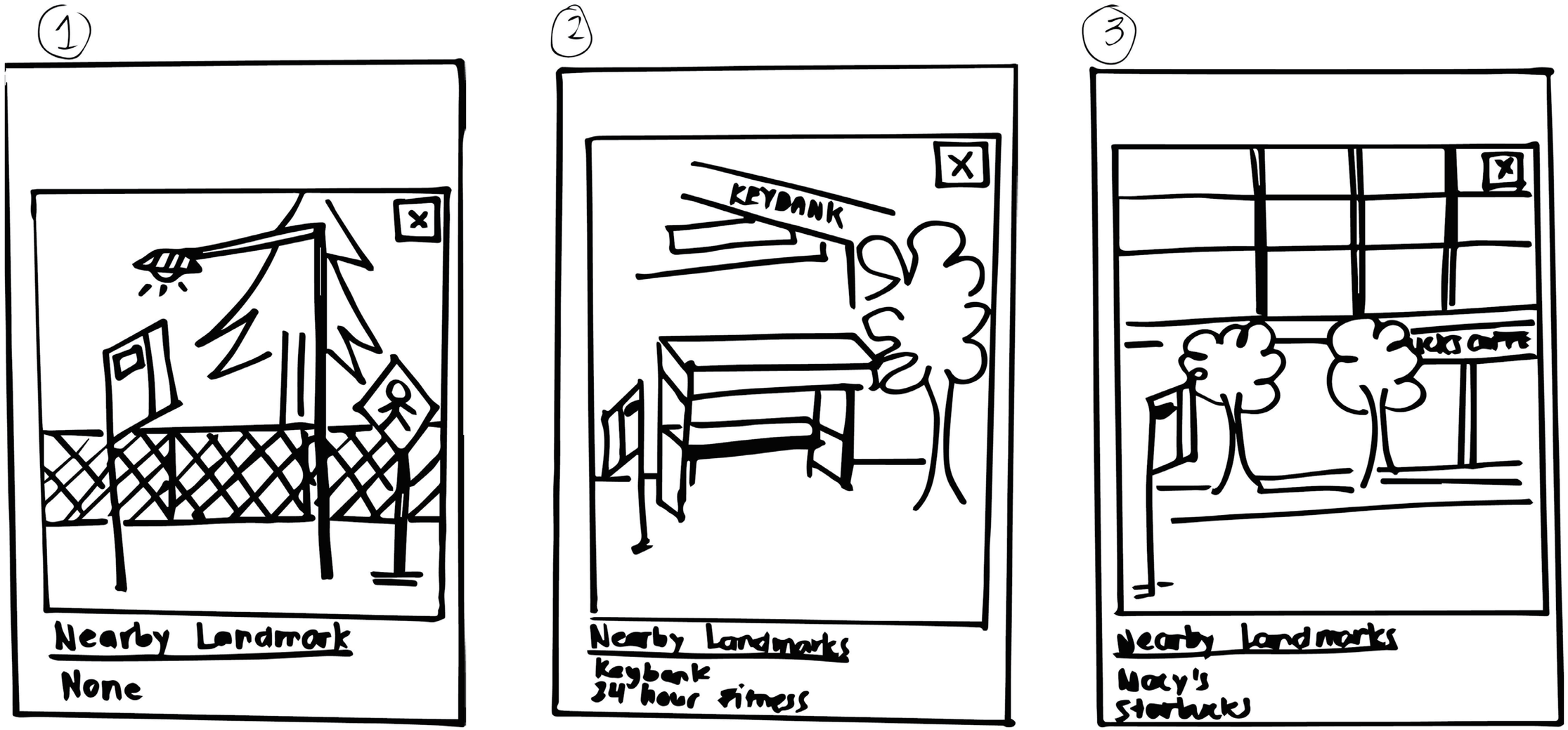


# First Person Perspective Map

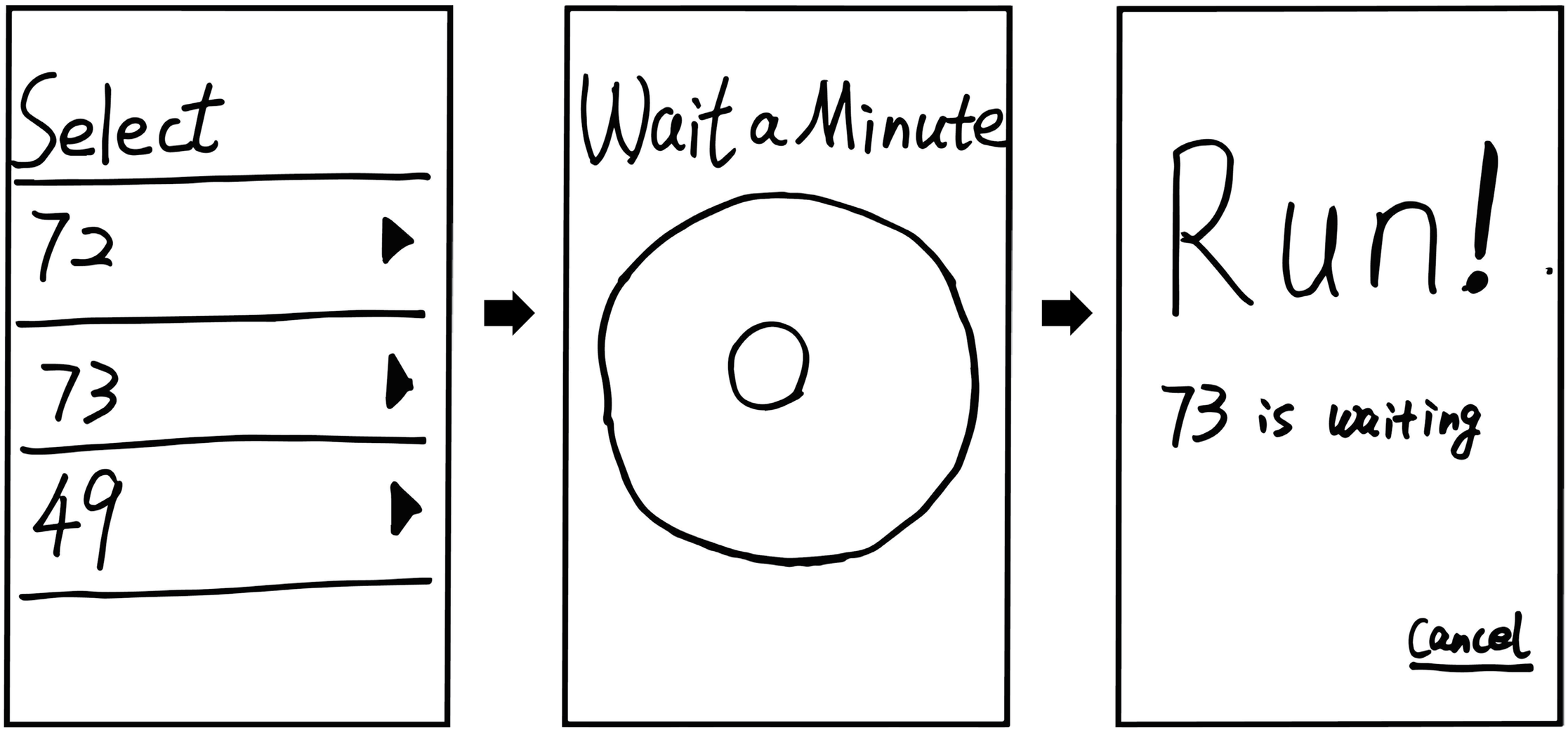


What if I could tell
the bus to ...**wait**...

# Wait a Minute!

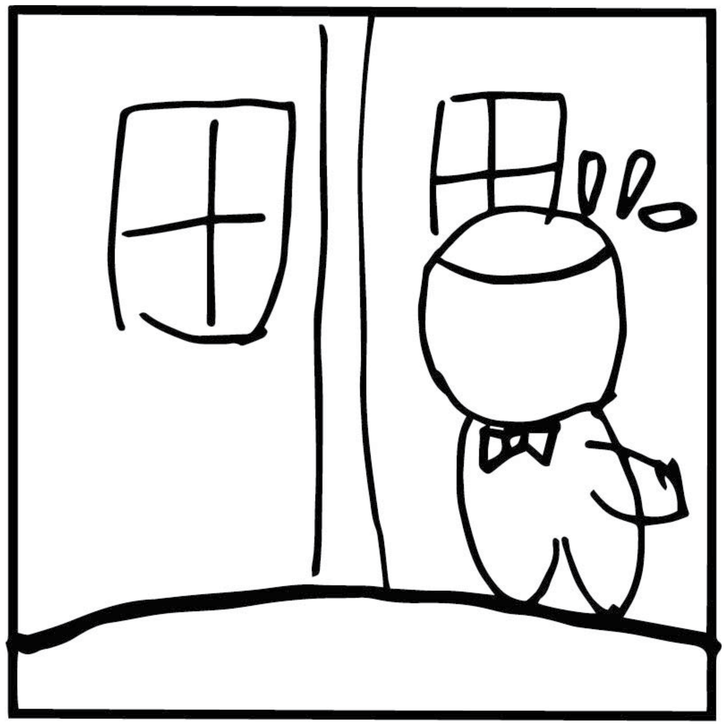
Connecting people with buses by notifying a bus driver to wait for them... **for just a minute.**

# Wait a Minute!

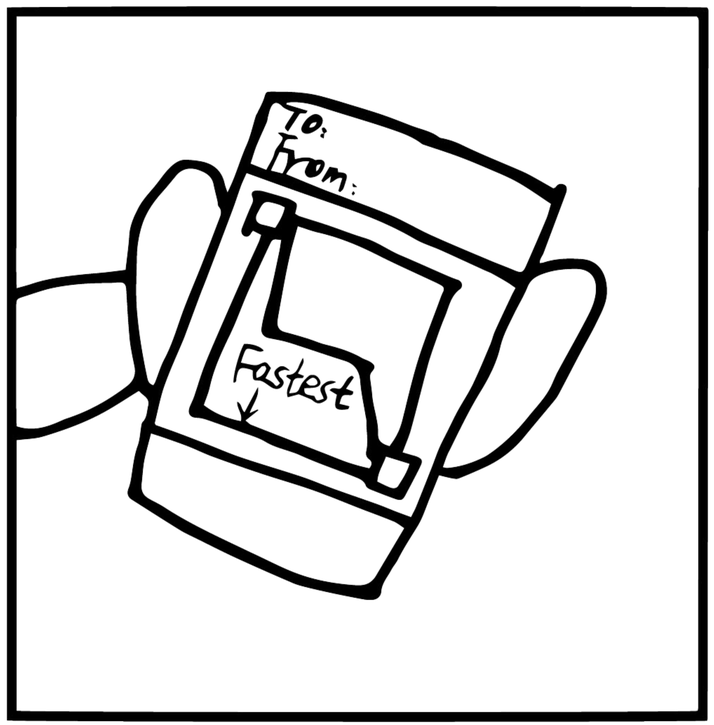


# Let's tell a **story**...

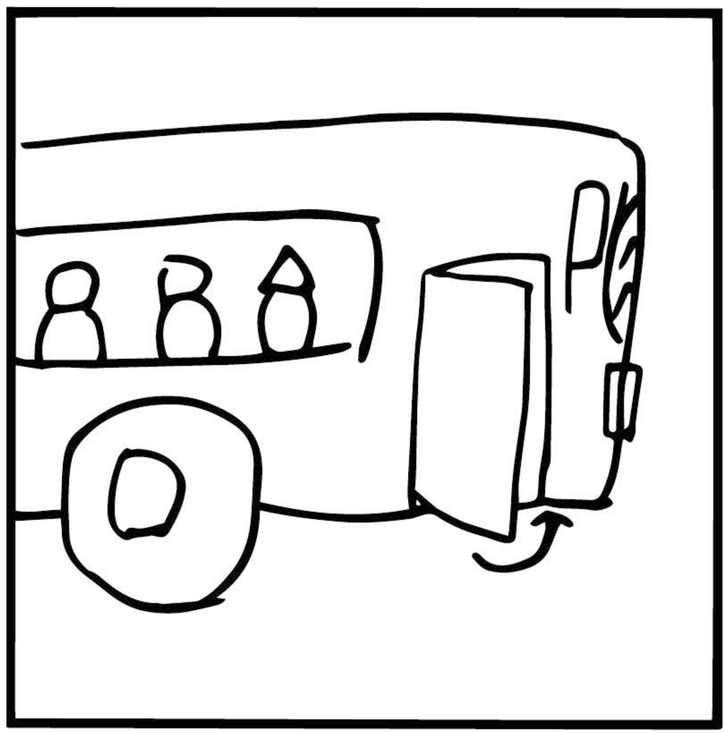
# Alex the Worker



Alex is in a rush going home to pick up his kids from kindergarten.

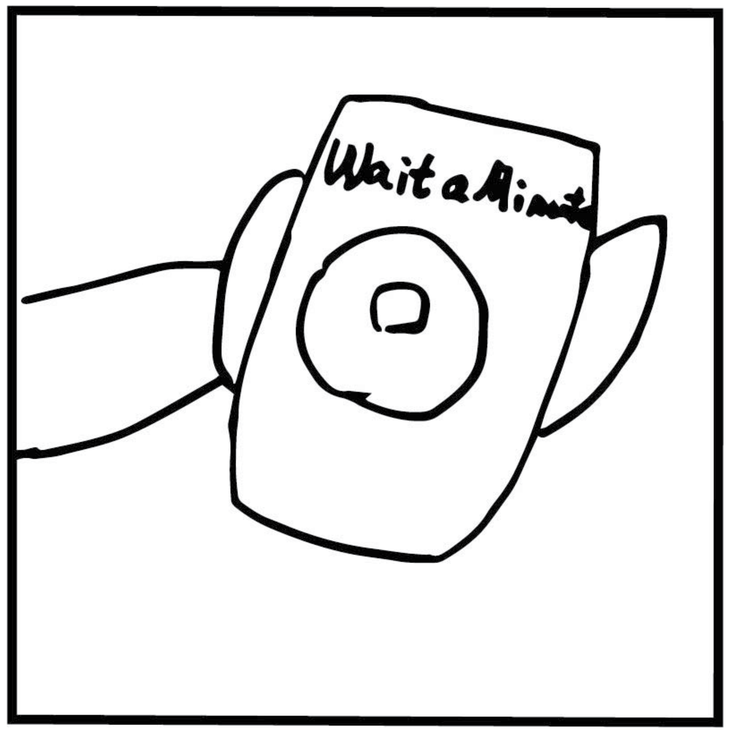



Alex chooses the fastest route.

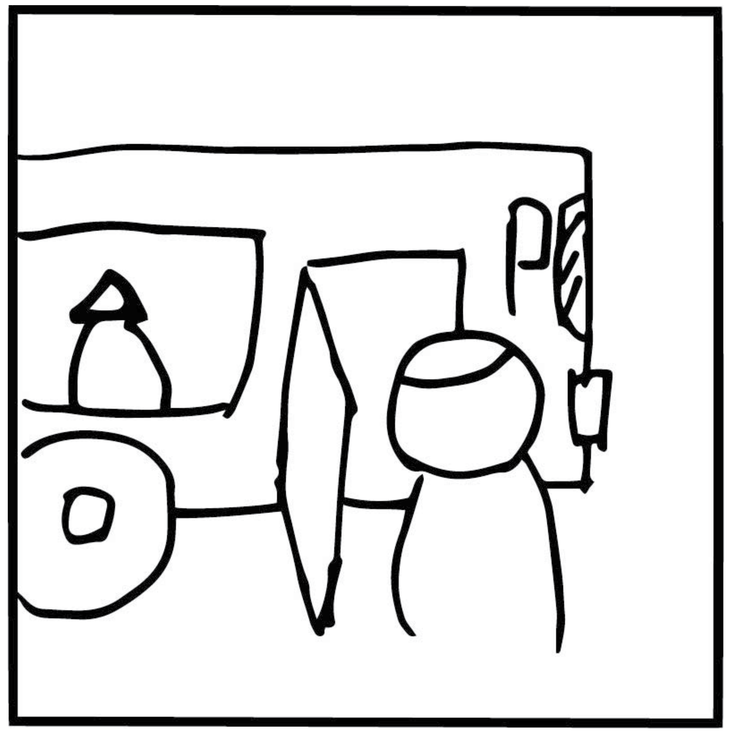


When Alex arrives at the bus stop, he sees the bus leaving!

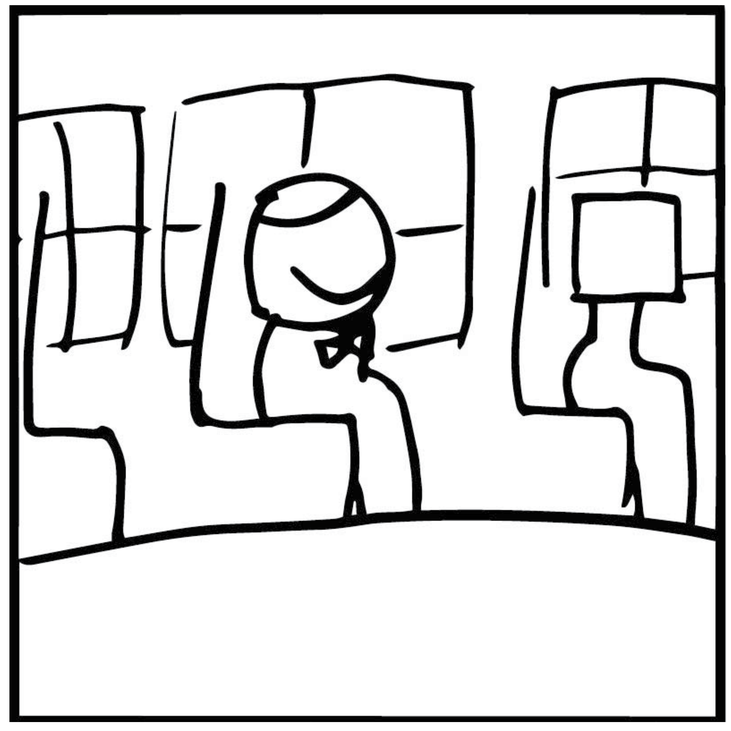
# Alex the Worker




Alex uses the “wait a minute” feature to tell the bus driver that he wants to get on.



The bus driver waits for Alex to get on the bus.



Alex Rides the bus home.

# Wireframes

**From :** Hayatt at Olive 8
**To:** Seattle Center

**Leave by:** 1:15 pm

**Fastest** ▸

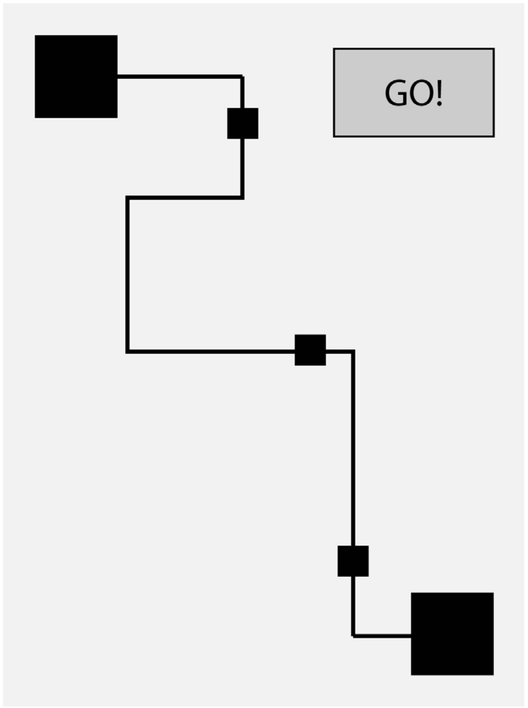
**Occupancy** ▸

**Social** ▸

**From :** Hayatt at Olive 8
**To:** Seattle Center

**Leave by:** 1:15 pm

■ Fastest




**From :** Hayatt at Olive 8
**To:** Seattle Center

**Leave by:** 1:15 pm

■ Fastest

**1:20 pm - 1:38 pm (18 min)** **Cost: $2.50**

**1:20 pm**
**Hyatt at Olive 8 hotel**
1635 8th Ave, Seattle, WA 98101

Walk to 3rd Ave & Pike St
About 8 min , 0.4 mi

**1:28 pm**
3rd Ave & Pike St

Take Bus 4 towards E Queen Anne,
Seattle Center E
$2.50
9 min (5 stops)

**1:37 pm**
5th Ave N & Broad St

Walk to Seattle Center
About 1 min , 0.3 mi

**1:38 pm**
**Seattle Center**
305 Harrison St, Seattle, WA 98109

# Wireframes

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To:
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Leave by:
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Wait a Minute!
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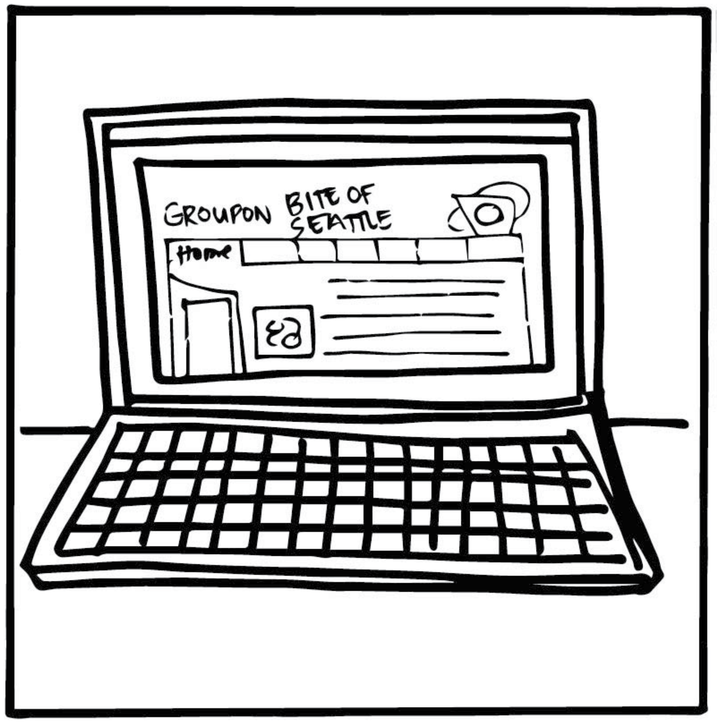
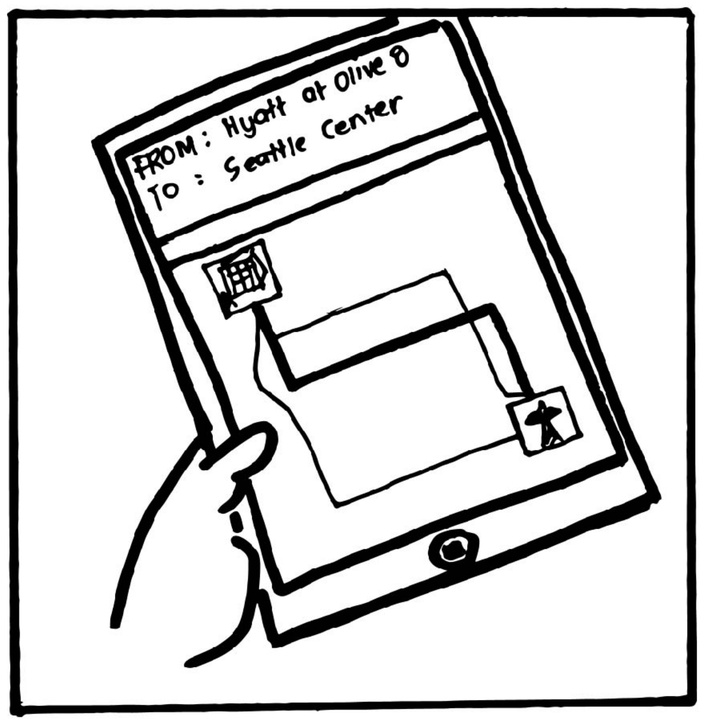
9 min (5 stops)
The bus is waiting...
49 sec
1:37 pm
5th Ave N & Broad St
Walk to Seattle Center
About 1 min , 0.3 mi
1:38 pm
Seattle Center
305 Harrison St, Seattle, WA 98109

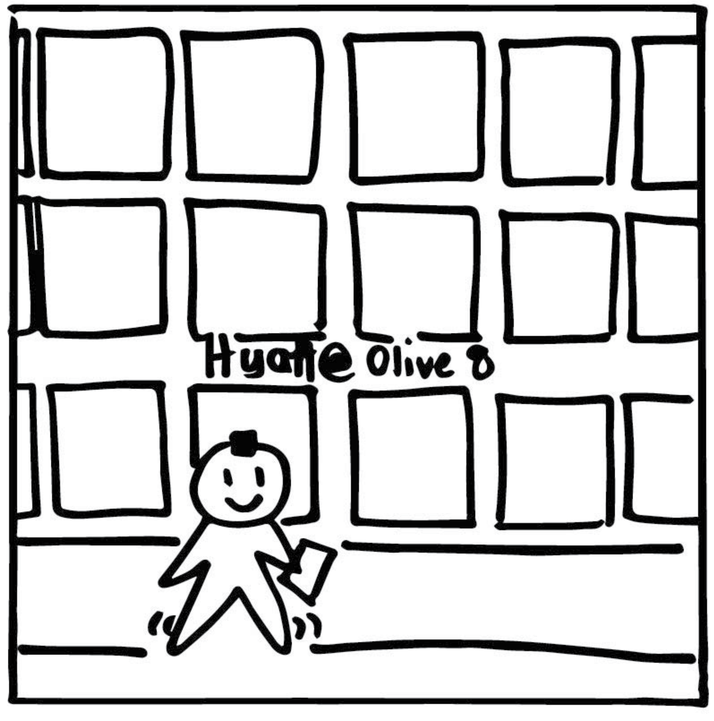
# Sam the Tourist




Sam, a tourist in Seattle, wants to go to the Bite of Seattle at Seattle Center.

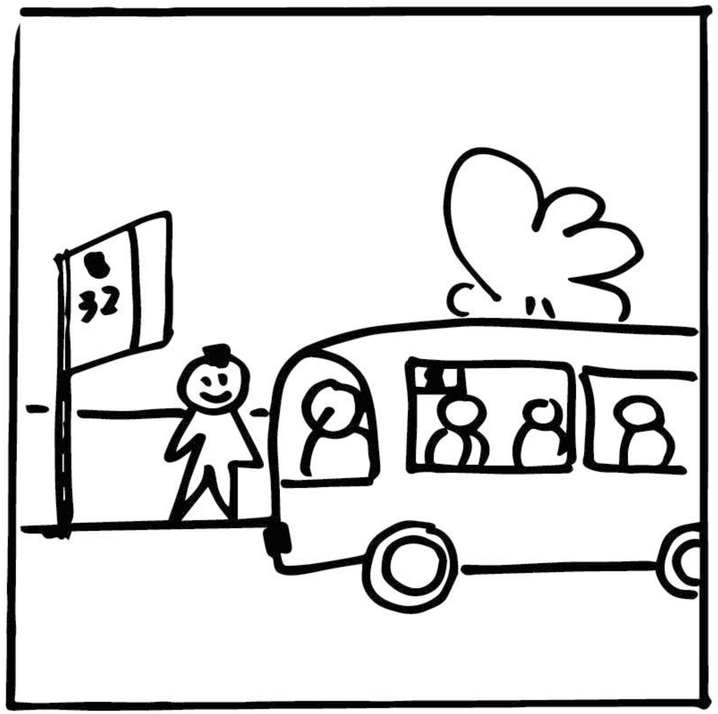



Sam searches for directions to the Seattle Center from his hotel.

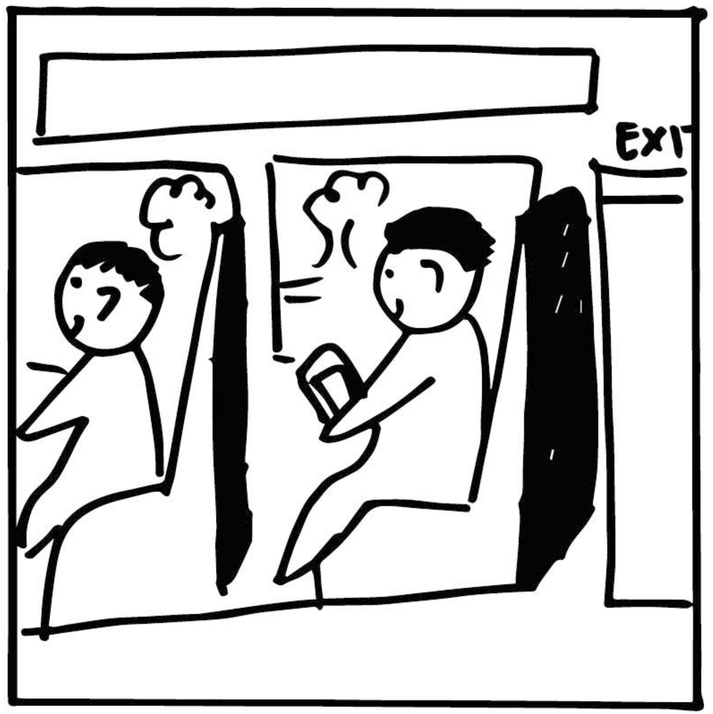



Sam leaves his hotel to go to the Seattle Center.

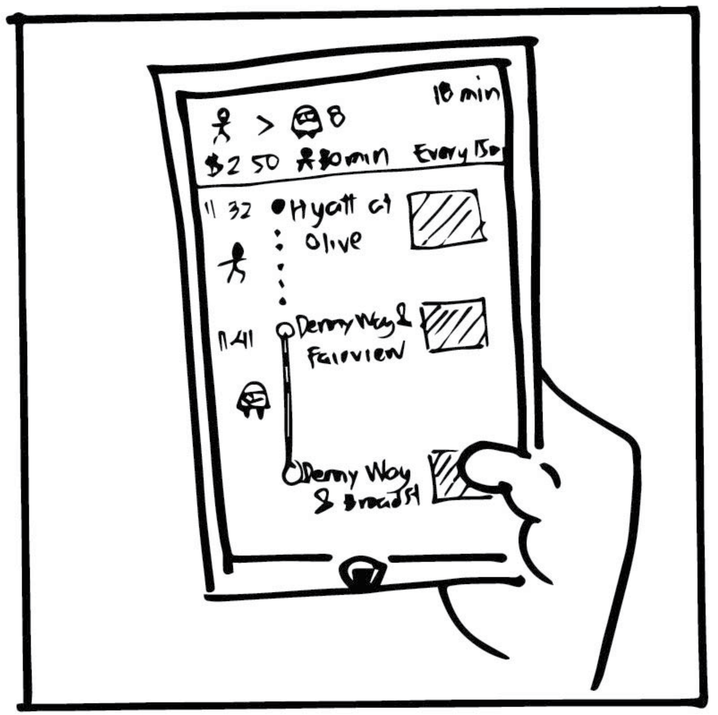
# Sam the Tourist




Sam boards bus #8 enroute to Seattle Center.

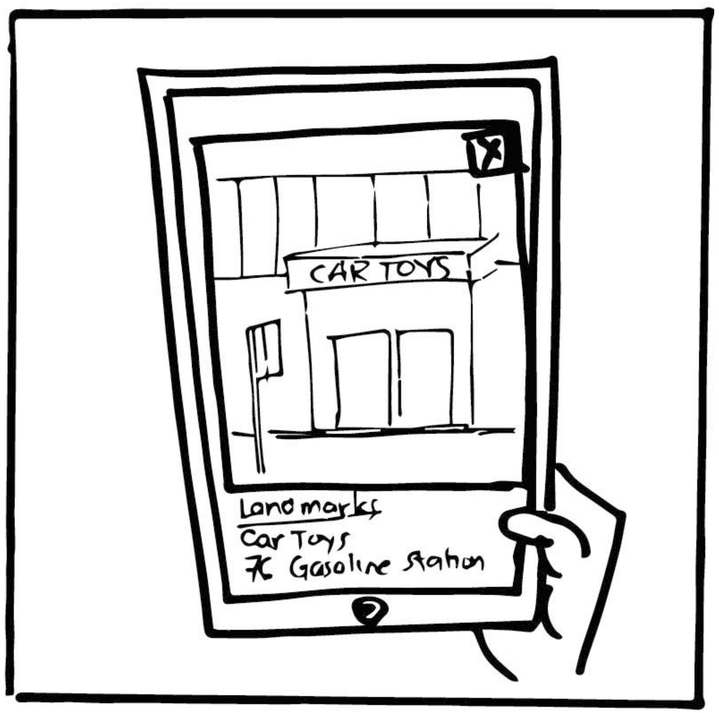



Sam wants to see what his stop looks like so he won't get lost.



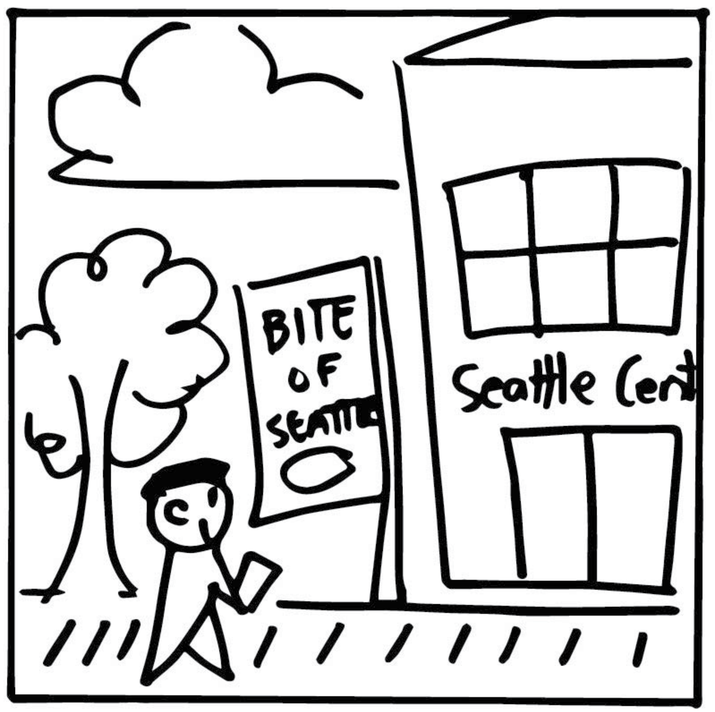

Sam clicks the photo of his next stop.

# Sam the Tourist



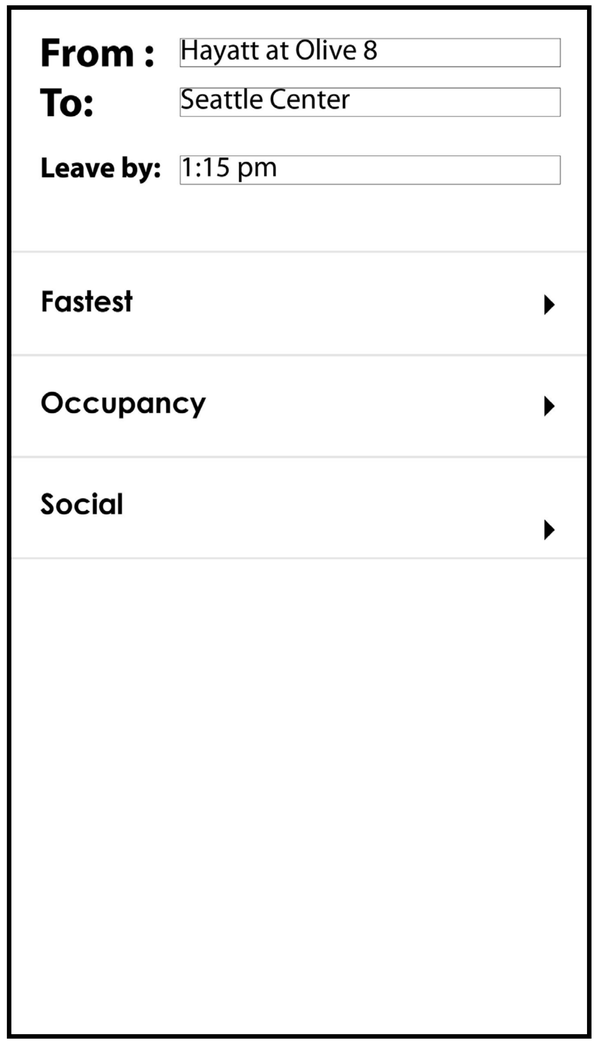

Sam sees what his next stop looks like, along with nearby landmarks.

Sam gets off at the right stop.




Sam walks to the Seattle Center from the stop.

# Wireframes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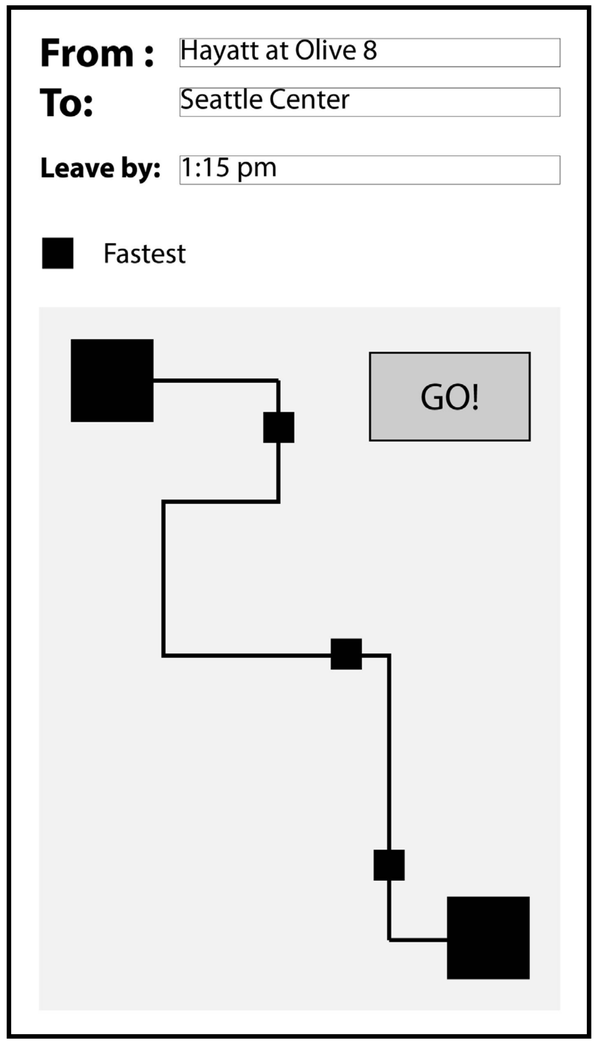
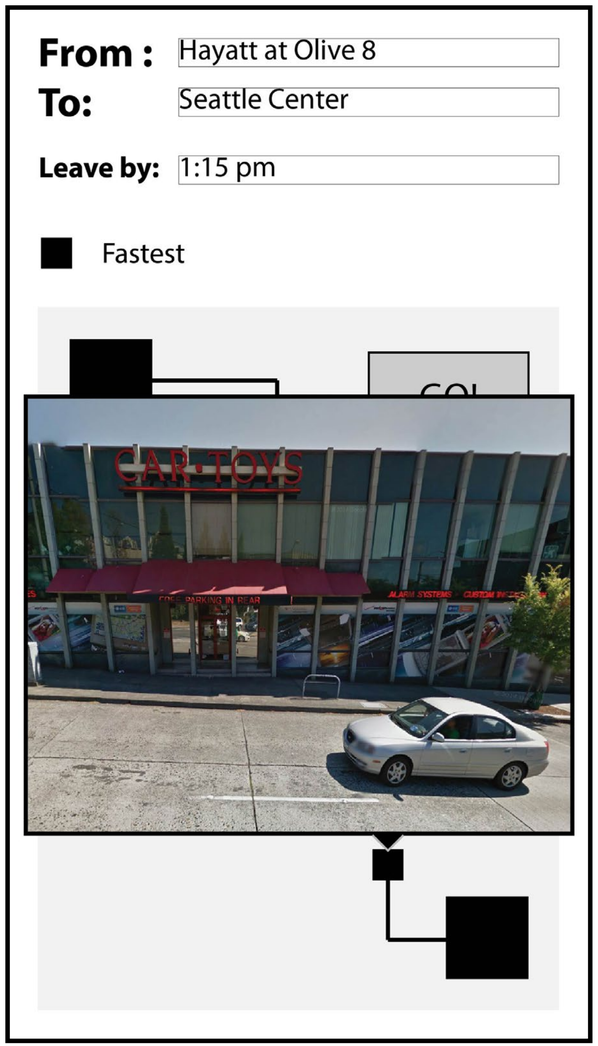
To:
Seattle Center
Leave by:
1:15 pm
Fastest
Occupancy
Social


From :
Hayatt at Olive 8
To:
Seattle Center
Leave by:
1:15 pm
Fastest
GO!


From :
Hayatt at Olive 8
To:
Seattle Center
Leave by:
1:15 pm
Fastest
GO!
CAR-TOYS

# Wireframes

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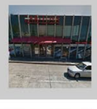
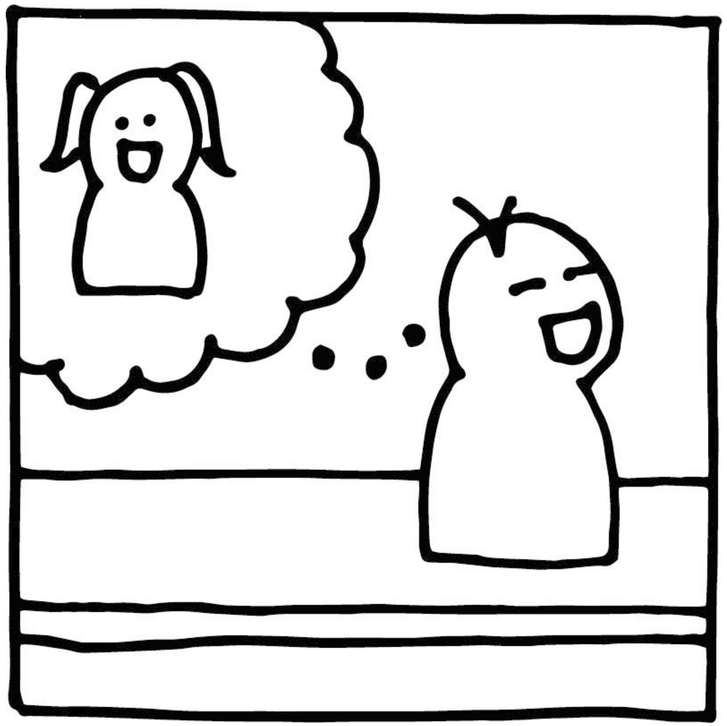
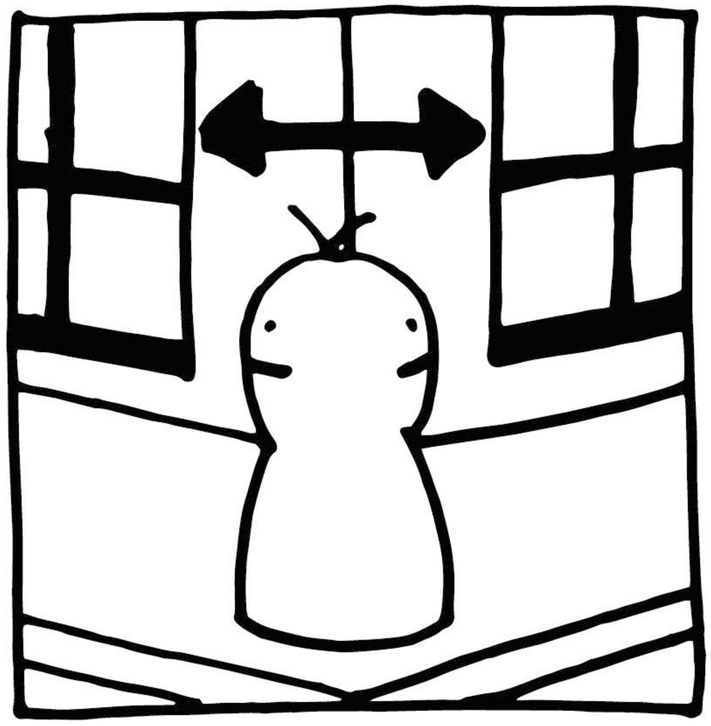


**Nearby Landmarks:**
CarToys
76 Gasoline Station

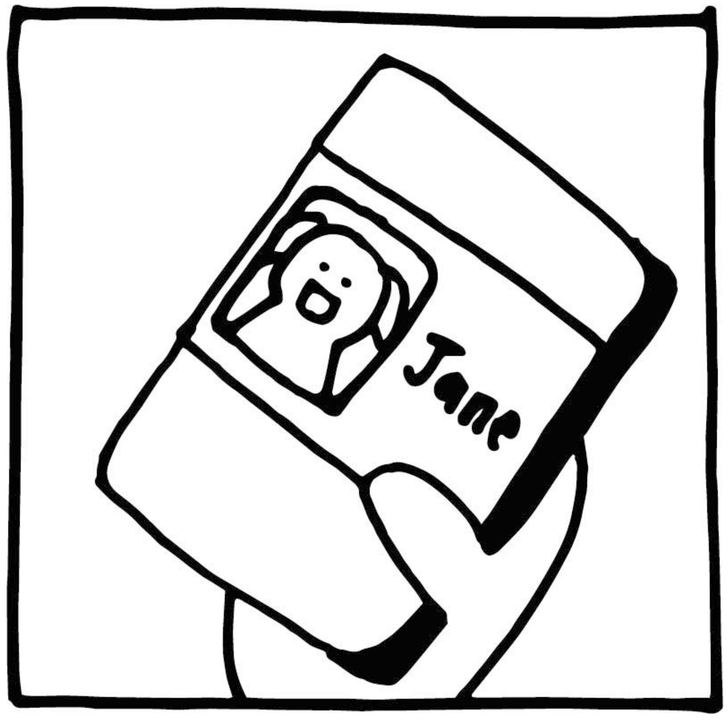
# Joe and Jane



Joe wants to take the bus with Jane.

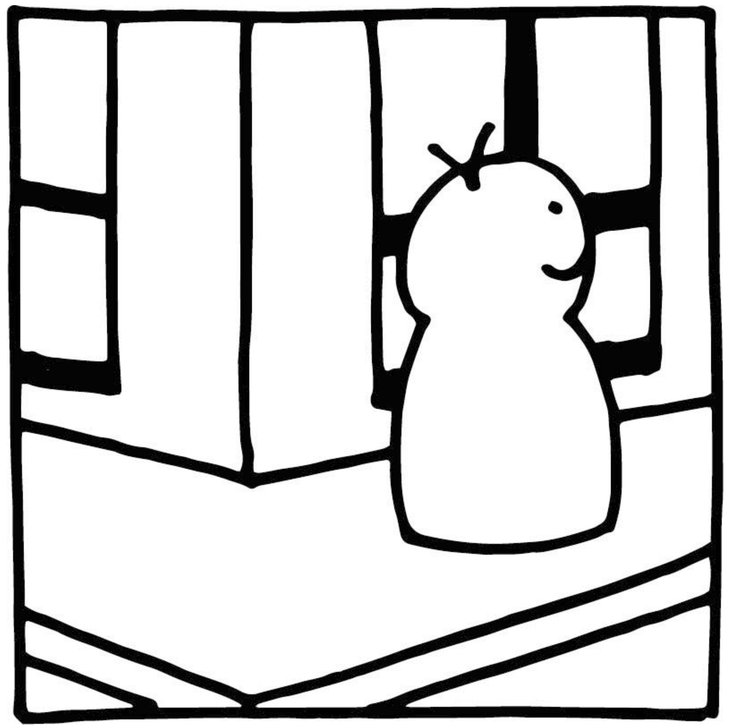


But Joe doesn't know which bus Jane will take.

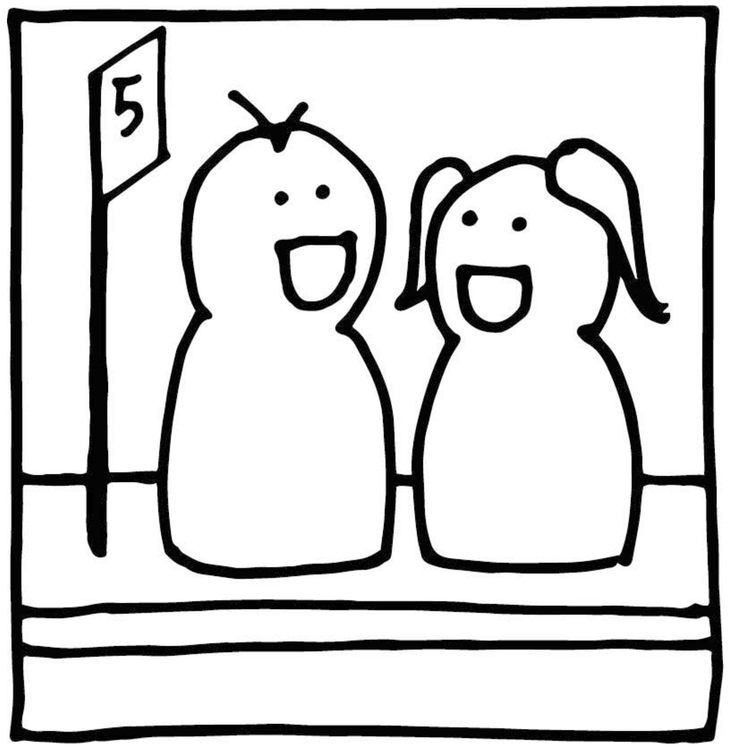



Joe finds Jane's bus stop with his new transit app

# Joe and Jane



Joe goes to Jane's bus stop.




Joe and Jane takes the bus together.

# Wireframes

**From :** Hayatt at Olive 8
**To:** Seattle Center

**Leave by:** 1:15 pm

**Fastest** ▸

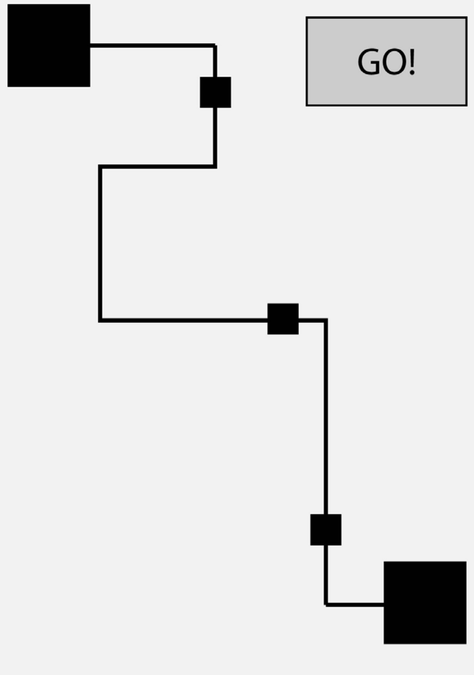
**Occupancy** ▸

**Social** ▸

**From :** Hayatt at Olive 8
**To:** Seattle Center

**Leave by:** 1:15 pm

**Jane Shaw**




**From :** Hayatt at Olive 8
**To:** Seattle Center

**Leave by:** 1:15 pm

**Jane Shaw**

**1:20 pm - 1:38 pm (18 min)** **Cost: $2.50**

**1:20 pm**
**Hyatt at Olive 8 hotel**
1635 8th Ave, Seattle, WA 98101

Walk to 3rd Ave & Pike St
About 8 min , 0.4 mi

**1:28 pm**
3rd Ave & Pike St

Take Bus 4 towards E Queen Anne,
Seattle Center E
$2.50
9 min (5 stops)

**1:37 pm**
5th Ave N & Broad St

Walk to Seattle Center
About 1 min , 0.3 mi

**1:38 pm**
**Seattle Center**
305 Harrison St, Seattle, WA 98109

# Wireframes

## Friends

**Jane Shaw**

**Miriam Bennett**

**Julio James**

**William Fernandez**

Jessica Vargas

Danny Shaw

**From :** Hayatt at Olive 8
**To:** Seattle Center

**Leave by:** 1:15 pm

- Fastest
- Occupancy
- Social

1635 8th Ave, Seattle, WA 98101

Walk to 3rd Ave & Pike St
About 8 min , 0.4 mi

**1:28 pm**
3rd Ave & Pike St

Take Bus 4 towards E Queen Anne, Seattle Center E
$2.50
9 min (5 stops)

**1:37 pm**
5th Ave N & Broad St

Walk to Seattle Center
About 1 min , 0.3 mi

**1:38 pm**
**Seattle Center**
305 Harrison St, Seattle, WA 98109

**From :** Hayatt at Olive 8
**To:** Seattle Center

**Leave by:** 1:15 pm

Occupancy

**1:20 pm - 1:38 pm (18 min)** **Cost: $2.50**

**1:20 pm**
**Hyatt at Olive 8 hotel**
1635 8th Ave, Seattle, WA 98101

Walk to 3rd Ave & Pike St
About 8 min , 0.4 mi

**1:28 pm**
3rd Ave & Pike St

Take Bus 4 towards E Queen Anne, Seattle Center E
$2.50
9 min (5 stops)

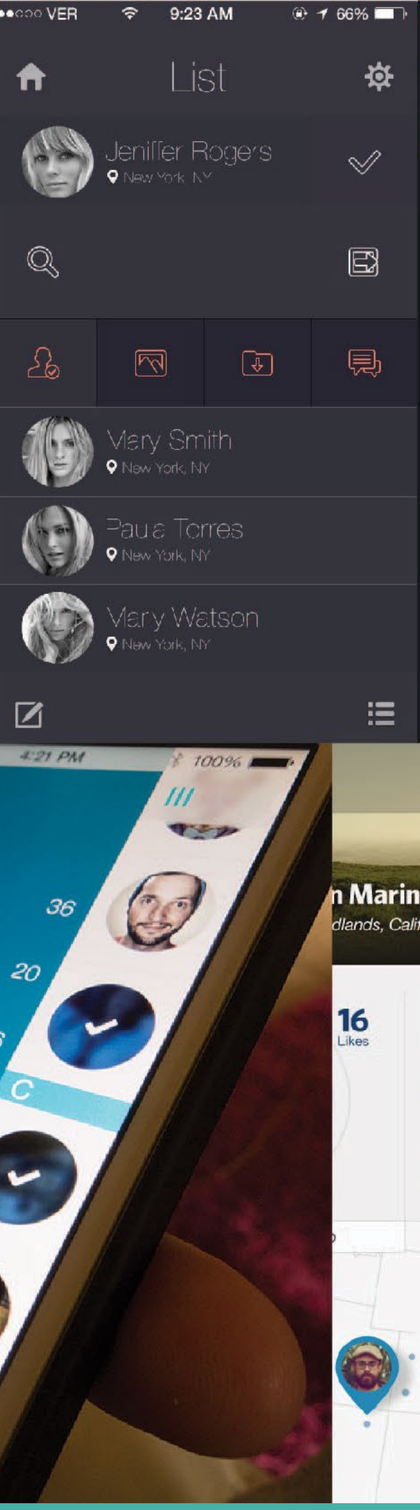
**1:37 pm**
5th Ave N & Broad St

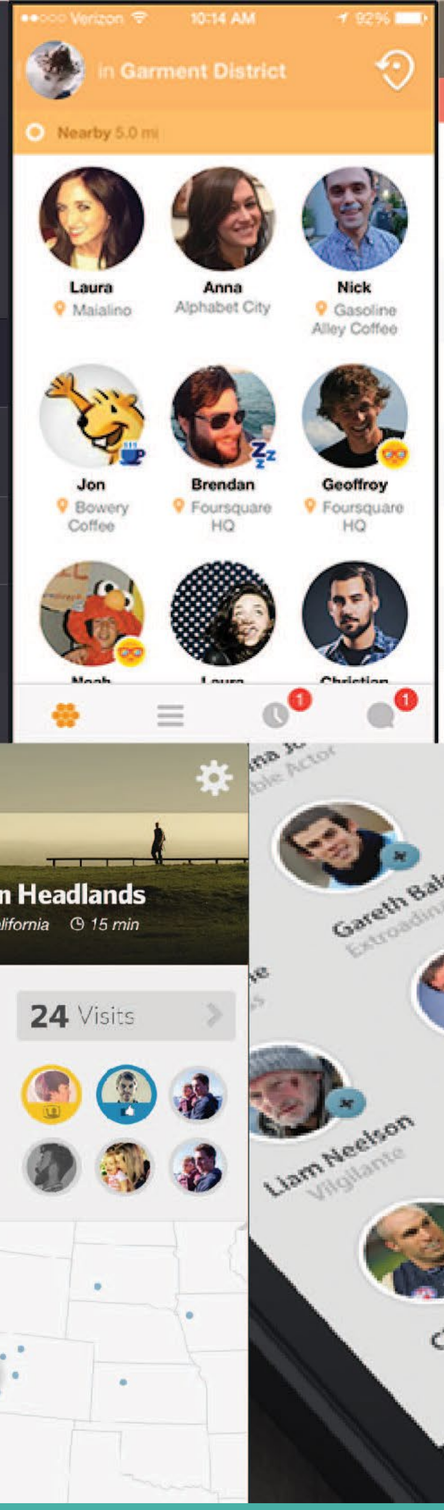
Walk to Seattle Center
About 1 min , 0.3 mi

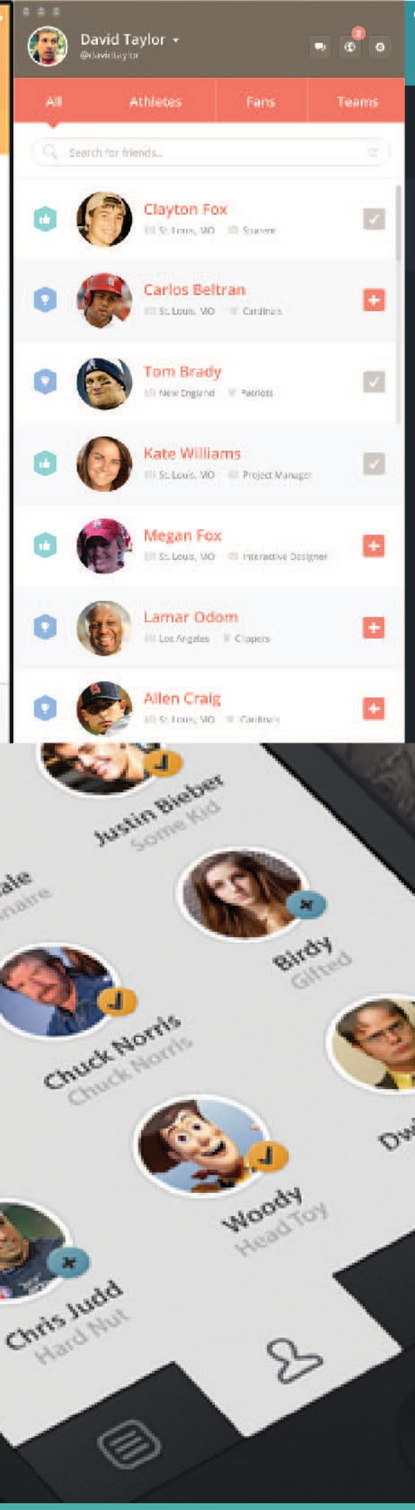
**1:38 pm**
**Seattle Center**
305 Harrison St, Seattle, WA 98109

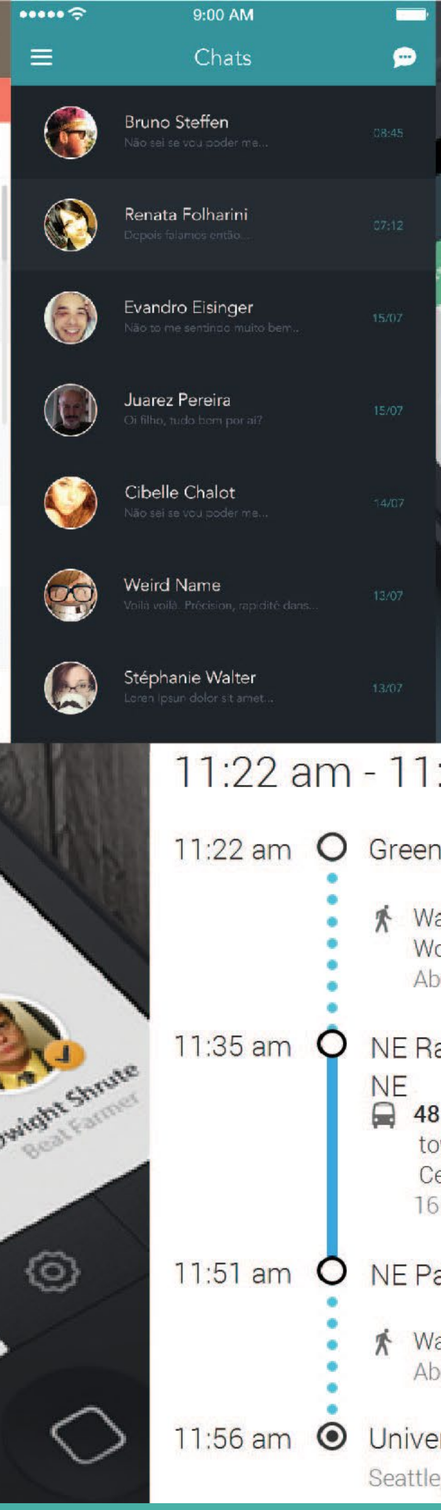
NE 100TH ST
2742
Please Stand
Behind
Yellow Line
CAUTION
Do Not Cross
In Front of Bus

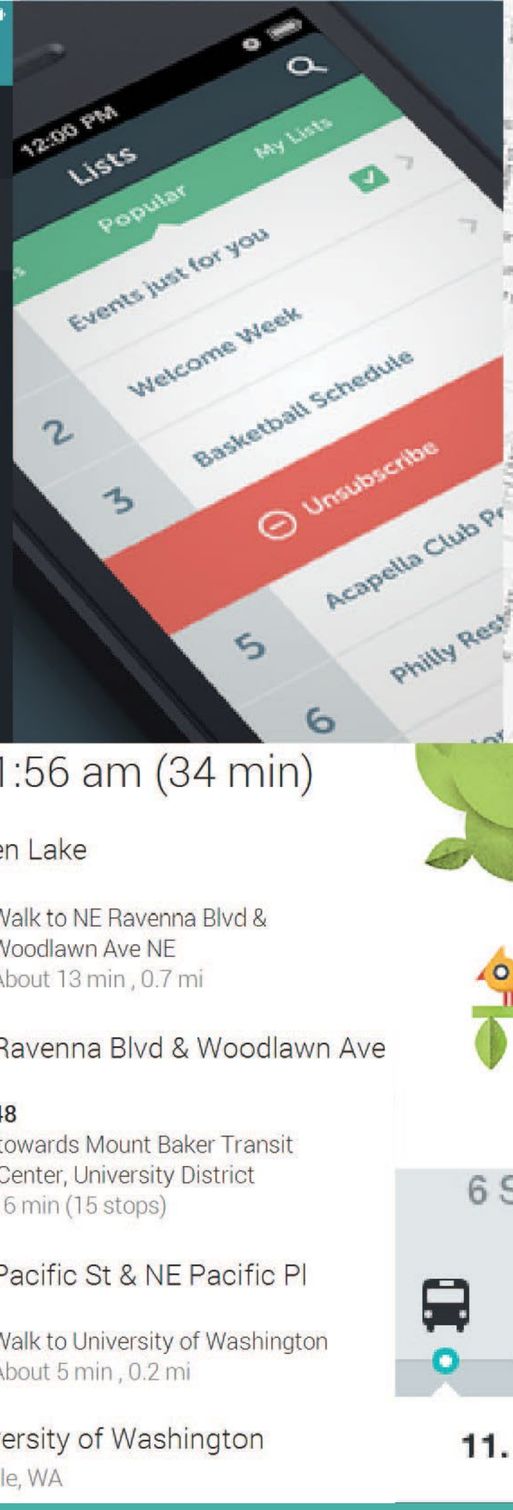
# The App


9:23 AM
66%
List
Jeniffer Rogers
New York, NY
Mary Smith
New York, NY
Paula Torres
New York, NY
Mary Watson
New York, NY


Verizon
10:14 AM
92%
in Garment District
Nearby 5.0 mi
Laura
Malalino
Anna
Alphabet City
Nick
Gasoline Alley Coffee
Jon
Bowery Coffee
Brendan
Foursquare HQ
Geoffroy
Foursquare HQ


David Taylor
All
Athletes
Fans
Teams
Search for friends...
Clayton Fox
Carlos Beltran
Tom Brady
Kate Williams
Megan Fox
Lamar Odom
Allen Craig

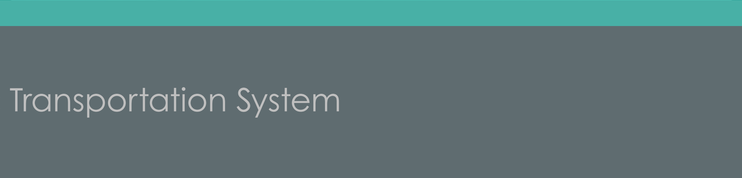

9:00 AM
Chats
Bruno Steffen
Renata Folharini
Evandro Eisinger
Juarez Pereira
Cibelle Chalot
Weird Name
Stéphanie Walter


12:00 PM
Lists
Popular
My Lists
Events just for you
Welcome Week
Basketball Schedule
Unsubscribe
Acapella Club
Philly Rest

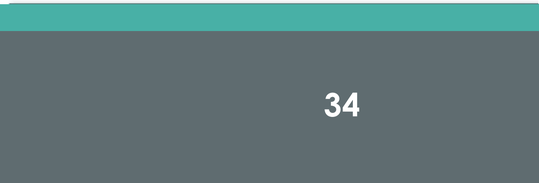
St. Louis

4:21 PM
100%

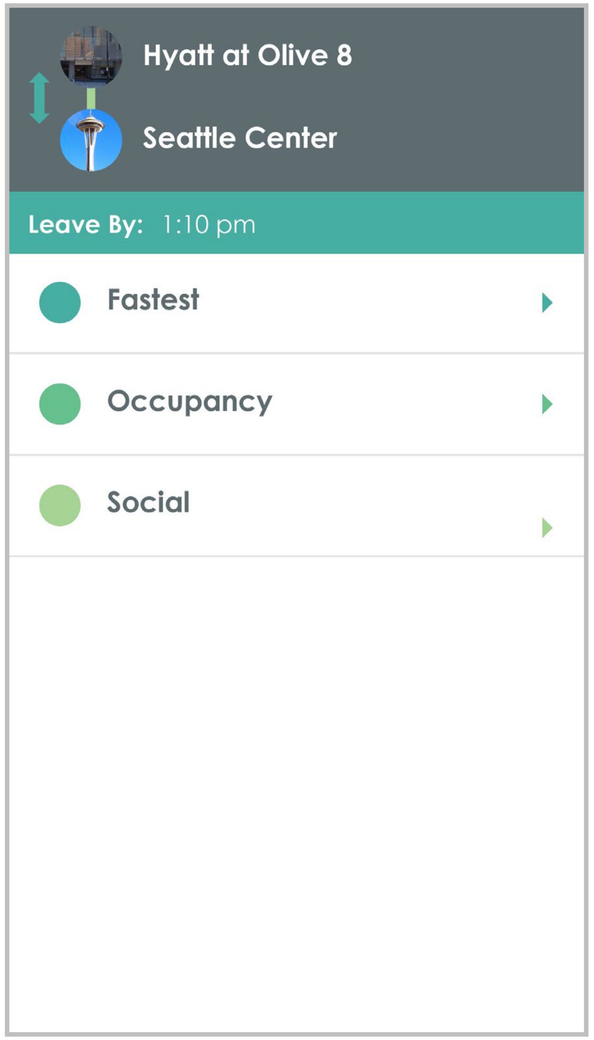
n Marin Headlands
dlands, California
15 min
16
Likes
24 Visits

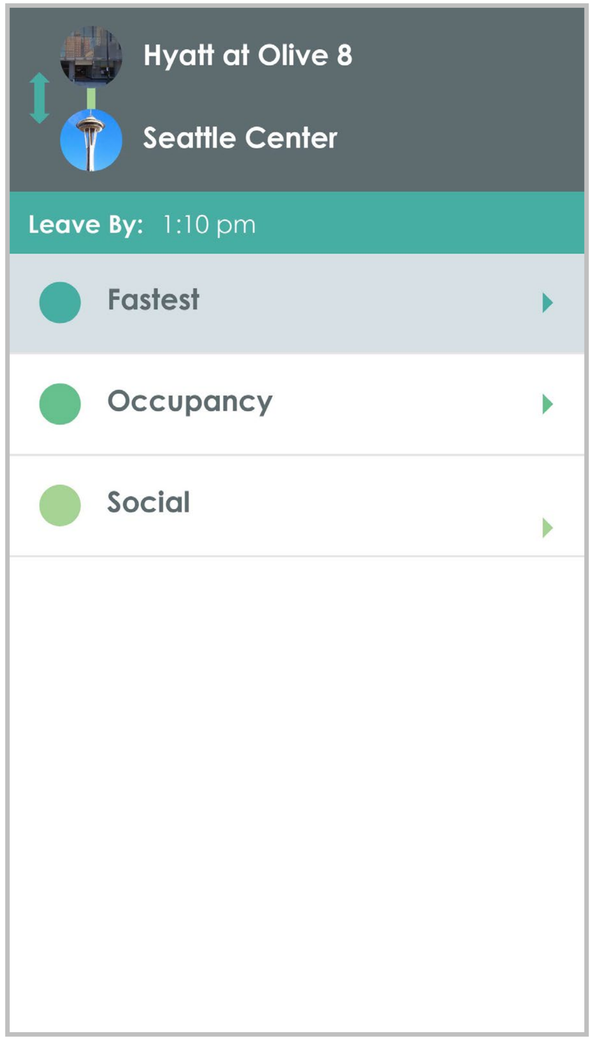

Justin Bieber
Some Kid
Gareth Bale
Extraordinaire
Birdy
Gifted
Chuck Norris
Chuck Norris
Liam Neelson
Vilgilante
Dwight Shrute
Beat Farmer
Woody
Head Toy
Chris Judd
Hard Nut

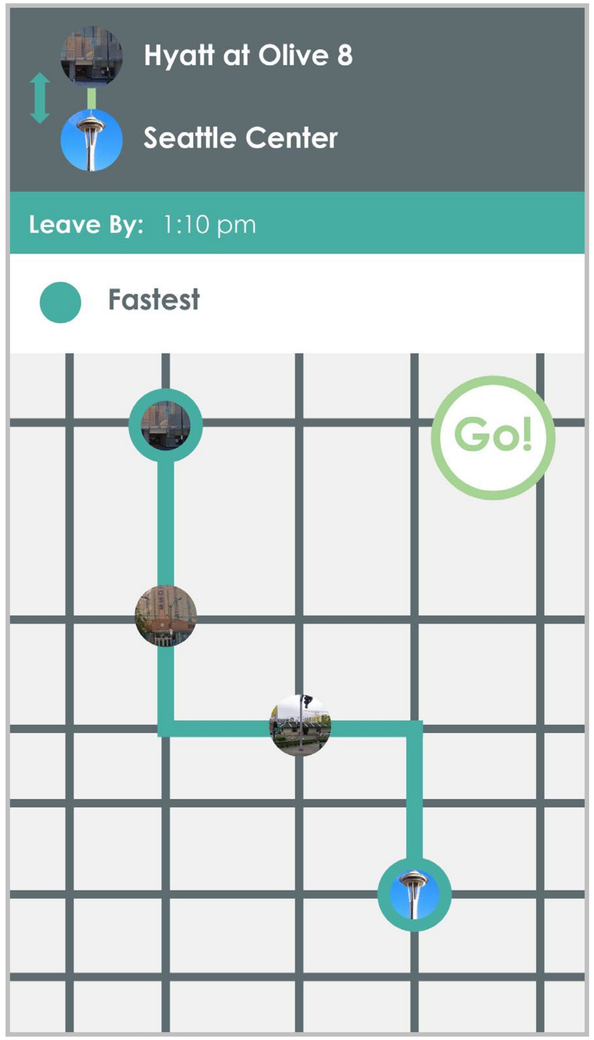
11:22 am - 11:56 am (34 min)
11:22 am
Green Lake
Walk to NE Ravenna Blvd & Woodlawn Ave NE
About 13 min , 0.7 mi
11:35 am
NE Ravenna Blvd & Woodlawn Ave NE
48
towards Mount Baker Transit Center, University District
16 min (15 stops)
11:51 am
NE Pacific St & NE Pacific Pl
Walk to University of Washington
About 5 min , 0.2 mi
11:56 am
University of Washington
Seattle, WA


6 Stops remain
11. Ruijing Plaza

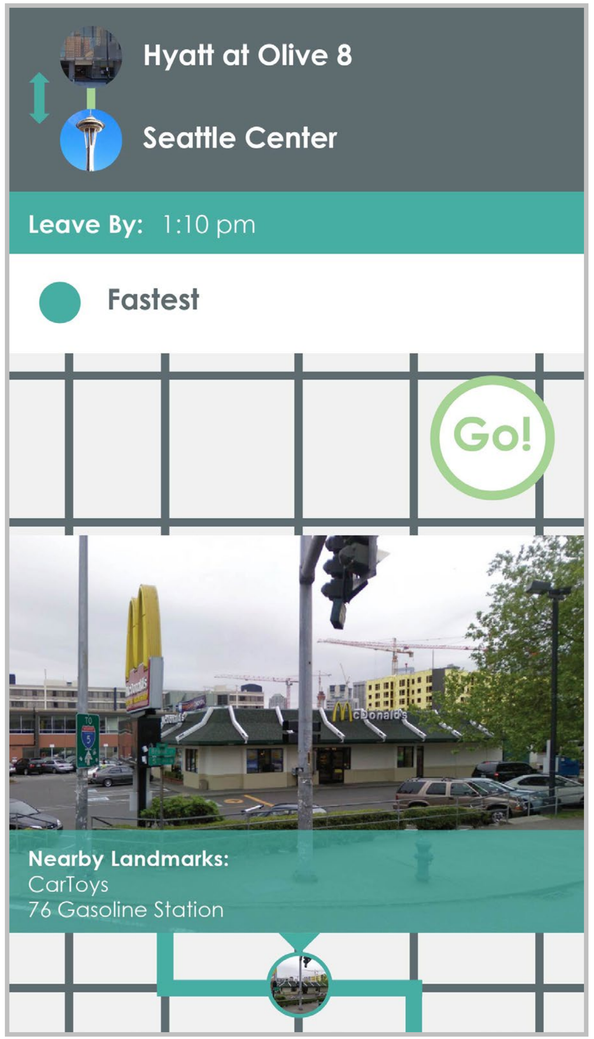
# The App

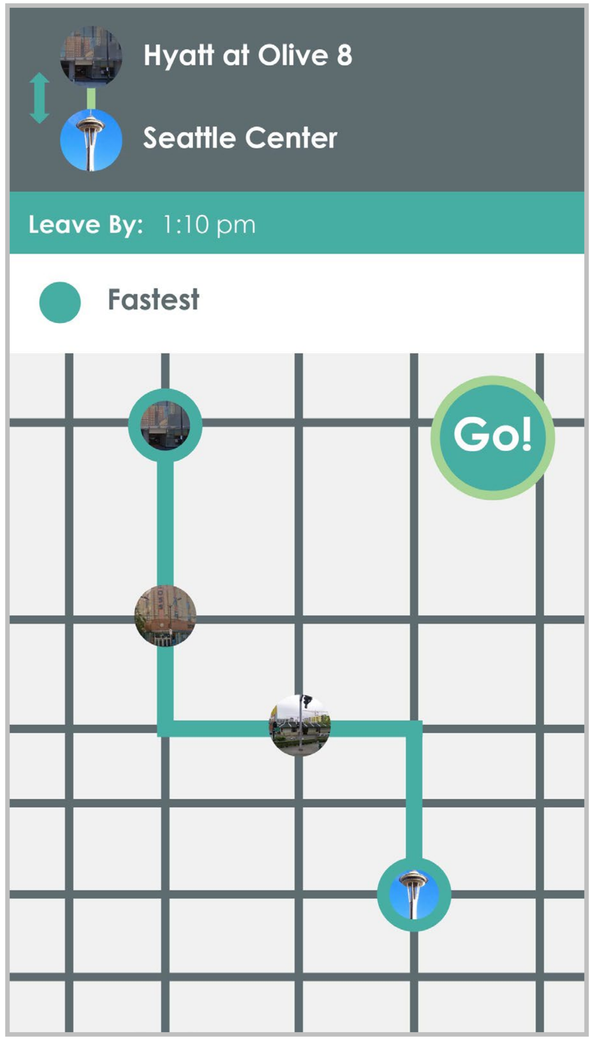

Hyatt at Olive 8
Seattle Center
Leave By: 1:10 pm
Fastest
Occupancy
Social

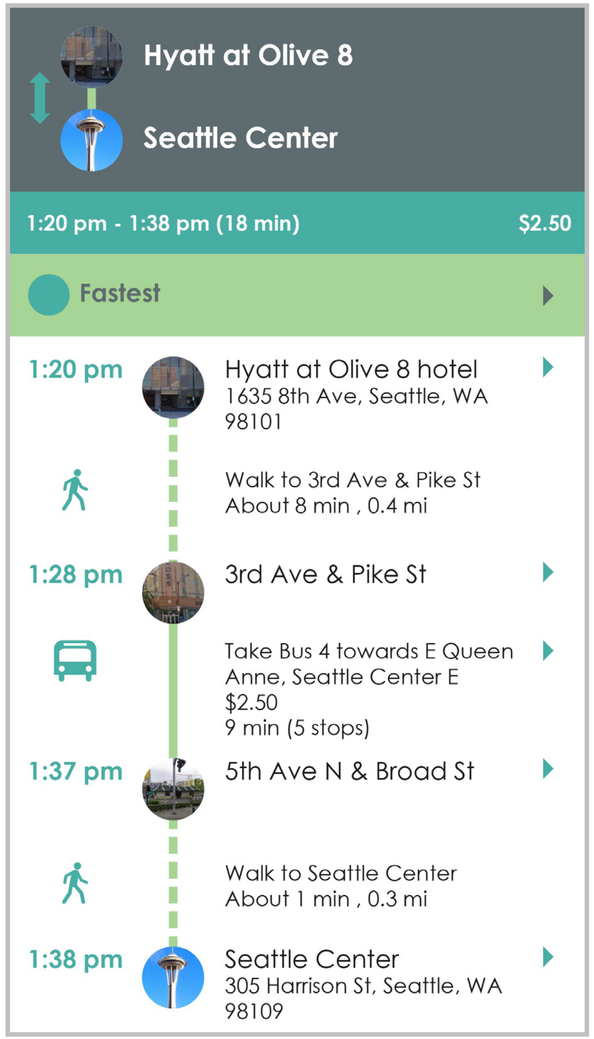

Hyatt at Olive 8
Seattle Center
Leave By: 1:10 pm
Fastest
Occupancy
Social


Hyatt at Olive 8
Seattle Center
Leave By: 1:10 pm
Fastest
Go!

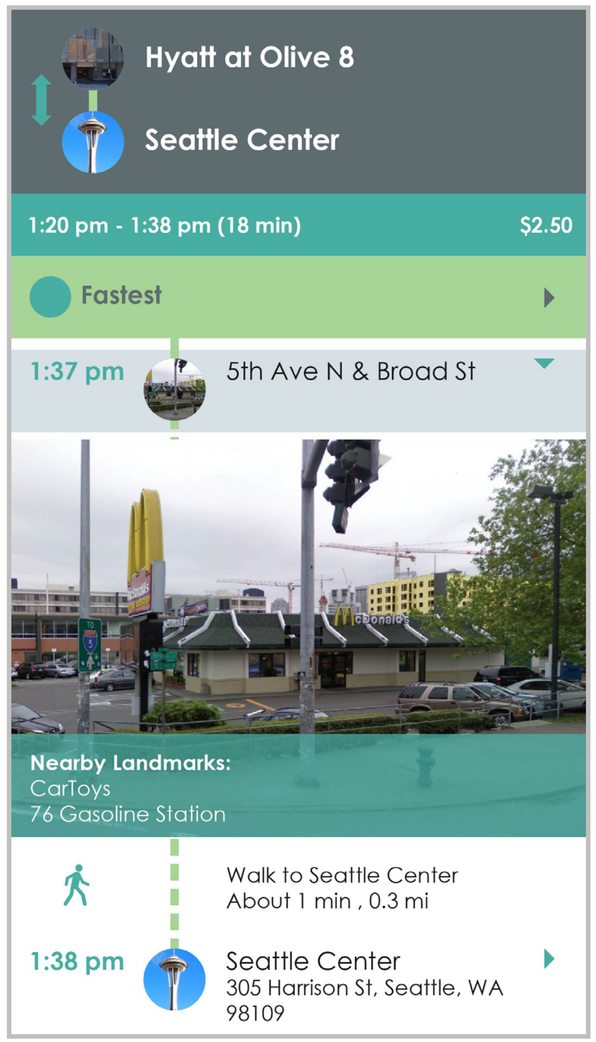
# The App

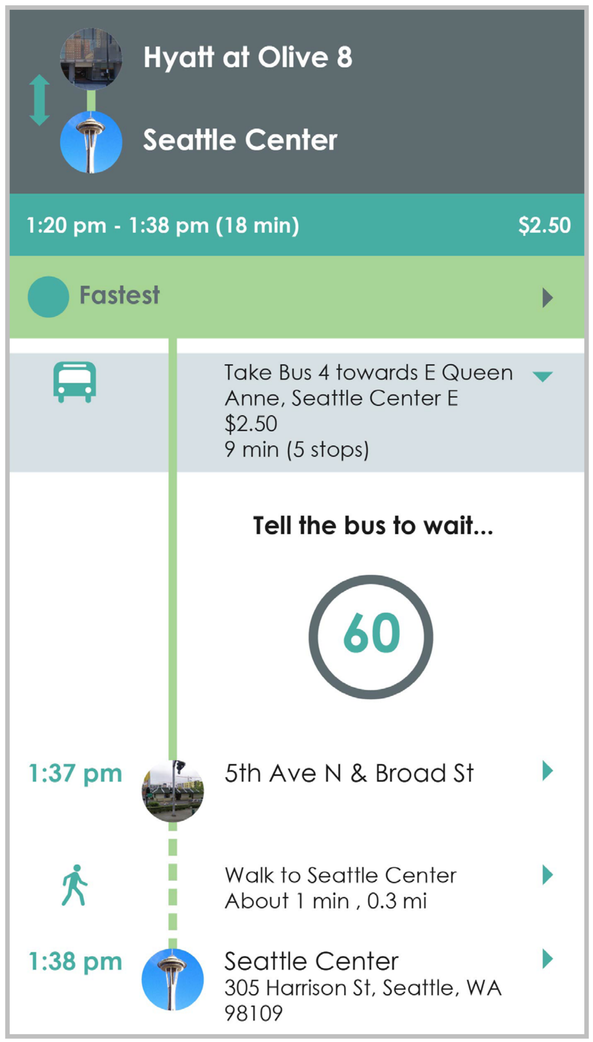

Hyatt at Olive 8
Seattle Center
Leave By: 1:10 pm
Fastest
Go!
Nearby Landmarks:
CarToys
76 Gasoline Station

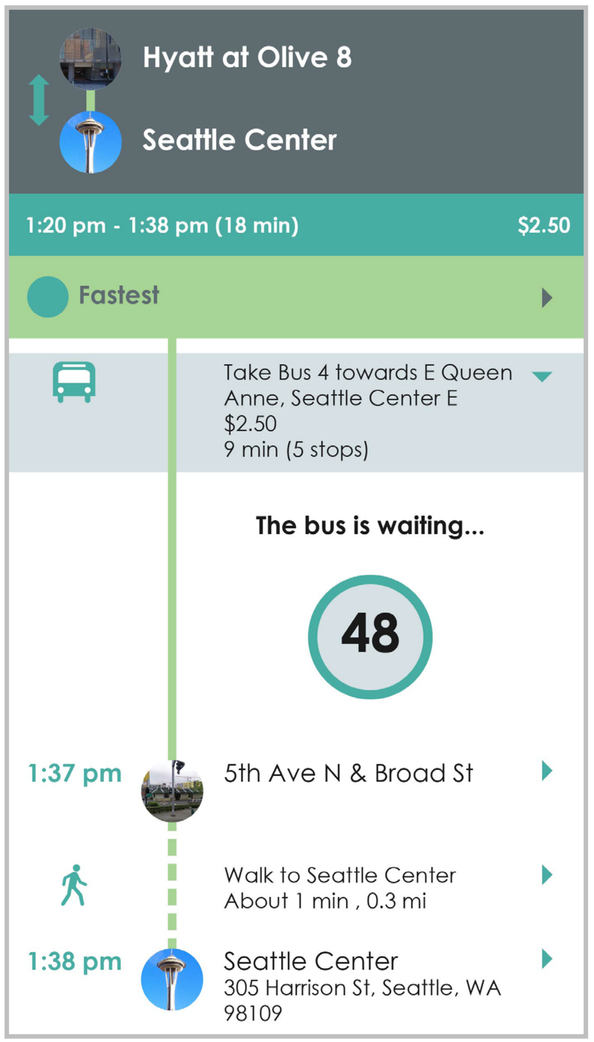

Hyatt at Olive 8
Seattle Center
Leave By: 1:10 pm
Fastest
Go!


Hyatt at Olive 8
Seattle Center
1:20 pm - 1:38 pm (18 min)
$2.50
Fastest
1:20 pm
Hyatt at Olive 8 hotel
1635 8th Ave, Seattle, WA 98101
Walk to 3rd Ave & Pike St
About 8 min , 0.4 mi
1:28 pm
3rd Ave & Pike St
Take Bus 4 towards E Queen Anne, Seattle Center E
$2.50
9 min (5 stops)
1:37 pm
5th Ave N & Broad St
Walk to Seattle Center
About 1 min , 0.3 mi
1:38 pm
Seattle Center
305 Harrison St, Seattle, WA 98109

# The App

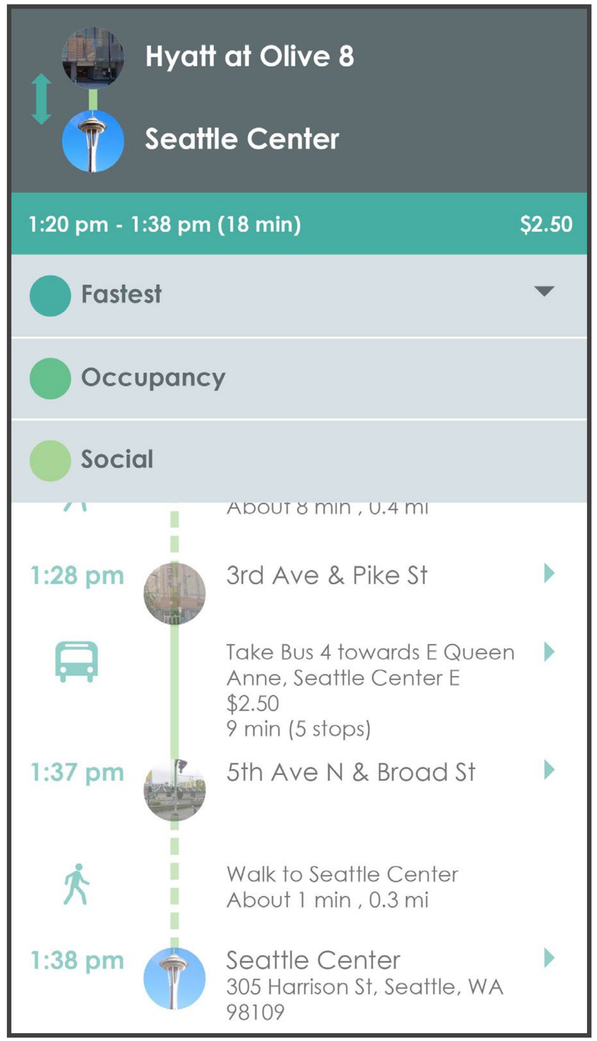

Hyatt at Olive 8
Seattle Center
1:20 pm - 1:38 pm (18 min)
$2.50
Fastest
1:37 pm
5th Ave N & Broad St
Nearby Landmarks:
CarToys
76 Gasoline Station
Walk to Seattle Center
About 1 min , 0.3 mi
1:38 pm
Seattle Center
305 Harrison St, Seattle, WA
98109


Hyatt at Olive 8
Seattle Center
1:20 pm - 1:38 pm (18 min)
$2.50
Fastest
Take Bus 4 towards E Queen Anne, Seattle Center E
$2.50
9 min (5 stops)
Tell the bus to wait...
60
1:37 pm
5th Ave N & Broad St
Walk to Seattle Center
About 1 min , 0.3 mi
1:38 pm
Seattle Center
305 Harrison St, Seattle, WA
98109


Hyatt at Olive 8
Seattle Center
1:20 pm - 1:38 pm (18 min)
$2.50
Fastest
Take Bus 4 towards E Queen Anne, Seattle Center E
$2.50
9 min (5 stops)
The bus is waiting...
48
1:37 pm
5th Ave N & Broad St
Walk to Seattle Center
About 1 min , 0.3 mi
1:38 pm
Seattle Center
305 Harrison St, Seattle, WA
98109

Hyatt at Olive 8
Seattle Center
1:20 pm - 1:38 pm (18 min)
$2.50
Fastest
1:37 pm
5th Ave N & Broad St
Nearby Landmarks:
CarToys
76 Gasoline Station
Walk to Seattle Center
About 1 min , 0.3 mi
1:38 pm
Seattle Center
305 Harrison St, Seattle, WA
98109

# The App


Hyatt at Olive 8
Seattle Center
1:20 pm - 1:38 pm (18 min)
$2.50
Fastest
Occupancy
Social
About 8 min , 0.4 mi
1:28 pm
3rd Ave & Pike St
Take Bus 4 towards E Queen Anne, Seattle Center E
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9 min (5 stops)
1:37 pm
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Walk to Seattle Center
About 1 min , 0.3 mi
1:38 pm
Seattle Center
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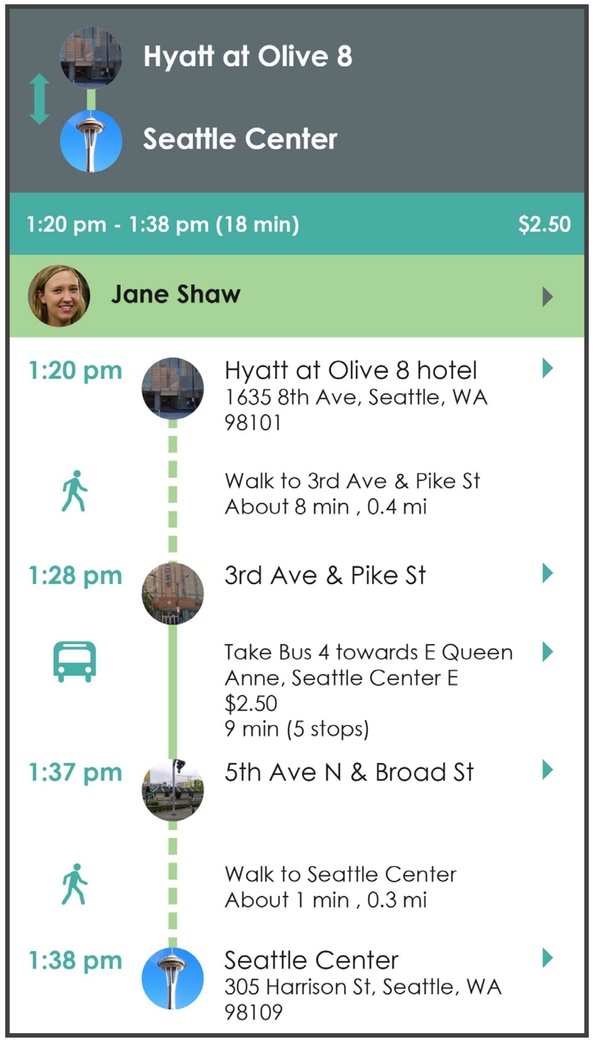
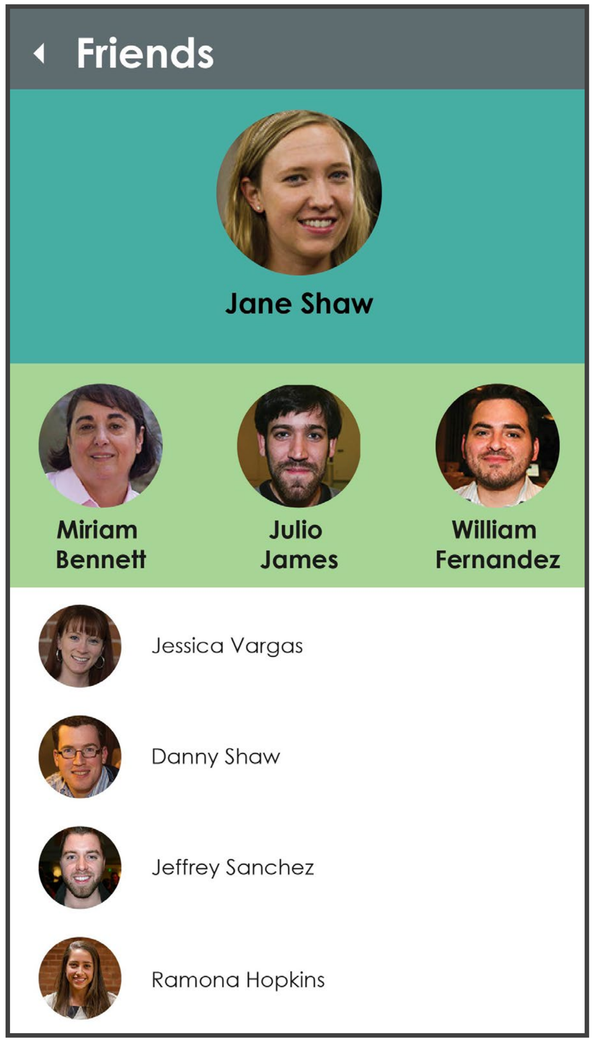

Hyatt at Olive 8
Seattle Center
1:20 pm - 1:38 pm (18 min)
$2.50
Jane Shaw
1:20 pm
Hyatt at Olive 8 hotel
1635 8th Ave, Seattle, WA 98101
Walk to 3rd Ave & Pike St
About 8 min , 0.4 mi
1:28 pm
3rd Ave & Pike St
Take Bus 4 towards E Queen Anne, Seattle Center E
$2.50
9 min (5 stops)
1:37 pm
5th Ave N & Broad St
Walk to Seattle Center
About 1 min , 0.3 mi
1:38 pm
Seattle Center
305 Harrison St, Seattle, WA 98109


Friends
Jane Shaw
Miriam Bennett
Julio James
William Fernandez
Jessica Vargas
Danny Shaw
Jeffrey Sanchez
Ramona Hopkins

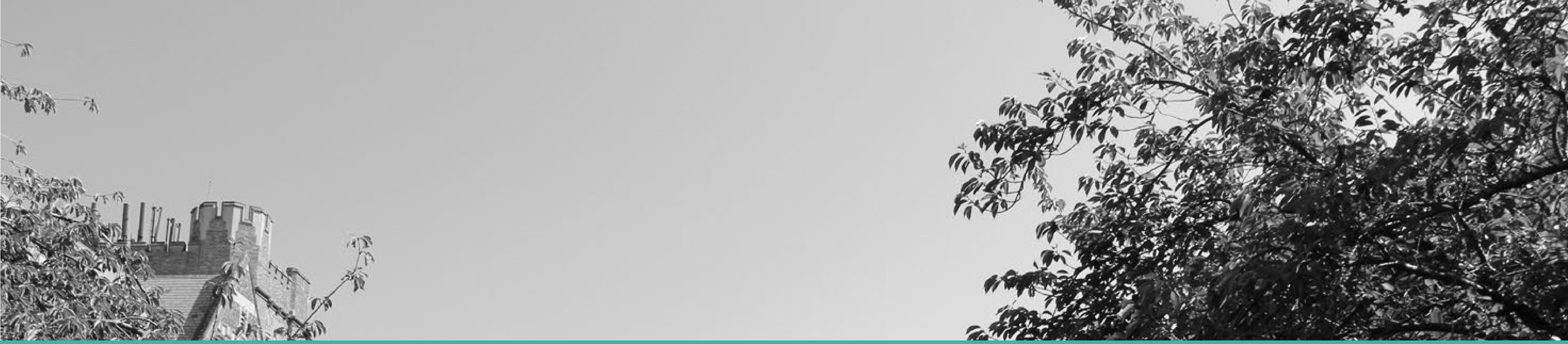
2518
347
556
348
35293
King County
METRO
Bus Layover

# What's next?

FEDERALLY INSURED BY NCUA

# The Next Step

- Prototyping
- User Testing



# Thank You