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Inspiration



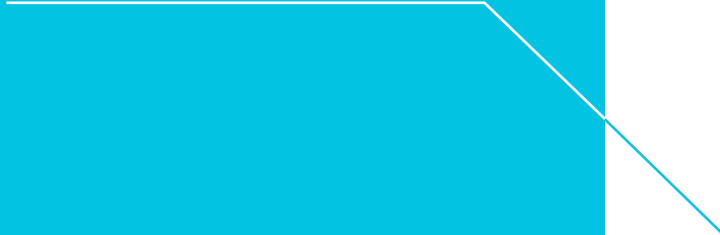
During my time at the University of Cincinnati, I earned extra money working in the catering department for the Cincinnati Reds. Those hours were spent serving food & beer to large parties while they all enjoyed the game & food.

After all the guests had left, I walked my cart, filled with uneaten food, to the main kitchen. There, we were instructed to scrape the hundreds of leftover hot dogs, smokies, pulled pork, pasta salad, potato salad, & popcorn into the bins & bins of garbage cans.

After leaving the ballpark, I passed nearly a dozen of people begging for food, hungry & cold.

This personal experience had inspired me to focus on food waste for my final capstone project.

Research



1 in 6 go hungry in
the Tri-State area

Interviews

George Food Pantry

Key Takeaways:

- Lack of storage space
- Accepts expired goods
- Accepts produce & meat
- Majority donated by Freestore Foodbank
- Pantry is unable to pick up donations

St. George Food Pantry is a local church ran organization that feeds the hungry in the Coryville neighborhood. Unlike other pantries, St. George does not cook for visitors, rather they supply bags filled with food for a family or individual.

Although they provide many with groceries, the pantry has limited space, especially for refrigerated & freezer space. Janet Cavanaugh, pantry director said, "This lack of space limits the amount of people the food pantry can serve." She also mentioned that sometimes they have to turn away donations due to lack of storage.

The majority of their goods come from Freestore Foodbank as well as donations from community members & restaurants in the area such as Panera Bread.

Janet mentioned that they are able to accept expired goods, so it is critical that people understand expiration labels. Another struggle is transportation for the clients. Many come on foot, & could receive more food, but can't because they are unable to carry extra bags to bring home to their families.

Freestore Foodbank Distribution Center

Key Takeaways:

- Accepts expired goods
- Make effort to utilize un-utilized food

Freestore Foodbank is a member of the larger organization Feeding America. Freestore Foodbank runs a variety of programs focusing on feeding the hungry in the Tri-State.

During my visit, I noticed infinite amounts of bins filled with peanut butter, snack packs, mandarin oranges, apples, etc. All of them were filled due to a misprinting on the packaging. Therefore, they could not be sold in grocery stores as intended, so instead this food awaits to be given in a weekend lunches for under privileged children.

Other common donations include food nearing its expiration date, over runs (too much product), seasonal goods, food for displays, & brites (food with no labels.)

Freestore Foodbank Logistics Coordinator

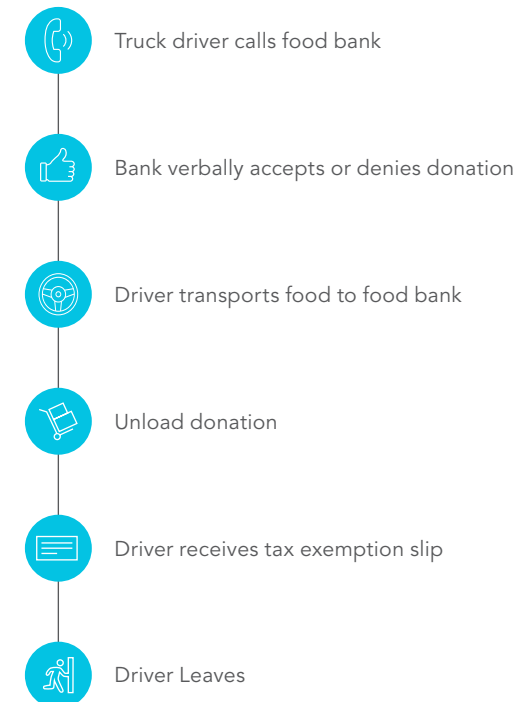
Key Takeaways:

- Do not need much notice for donations
- Do not have advanced technology systems
- Mostly volunteers
- Truck drivers are given tax credit slip of paper

After learning about the ample amount of donations that would have been otherwise wasted in the trash, I spoke with the distribution logistics coordinator at Freestore Foodbank to gain a better understanding of their process.

He provided great insights to the interactions of the overall warehouse. While in conversation, he mentioned that the majority of the workers were volunteers. Therefore, they tend to rotate regularly. Another key note he mentioned is that the food bank needs barely any heads up for a donation to come in. The distribution manager said, as long as they food bank is available they always welcome donations.

The general process of getting unused or unwanted food to Freestore foodbank goes as followed:



Mr. Freeman | Truck Driver

Key Takeaways: After better understanding how some potentially wasted food turned in to & outstanding amount of donated food, I was inspired at looking further into the distribution audience.

Driver receives manifest at start of day

Drivers use Google Maps

Siri is hard to use, especially in a semi

I got in touch with Mr. Freeman, a truck driver that has had many years of experience in a variety of markets in the trucking industry. The following information was taken from a phone interview earlier in the semester.

Q1 | Take me through a typical work day for a truck driver.

Get up early around 6:30. Go to the headquarter location. Pick up manifest. Prep/Load Truck. Go on routes (anywhere from 18 bulk loads to 180 small loads.) Get fuel throughout the day.

Q2 | Who do you interact with throughout the work day?

Leasing company (headquarters) & the dock personnel at the stops.

Q3 | Do you receive or complete any documentation or paperwork at any point during a typical work day?

At check-in, we receive a manifest which is all the information needed for each stop. It also provides turn-by-turn instructions, but it is only right hand turns so the majority use Google Maps.

Q4 | What type of technology do you use when working?

Mobile phone for navigation

Q5 | Q. How do you feel about features such as Siri?

She is hard to understand. A truck is also too loud to communicate that way.

Q6 | How do you feel about a digital application that directs drivers to nearby food banks to unload rejected goods?

Really good idea, especially for fresh food.

Problem Statement

Even with the best intentions, grocery stores & other related businesses create vast amounts of food waste in the distribution cycle due to refused goods that are still safe & nutritious. Unfortunately, the rejected shipments are often thrown away. This scenario results in a missed opportunity of providing quality food to those in need.

Project Overview

The baseline for food loss in the U.S. is 31% of our food supply, which is equivalent to 133 billion pounds or \$161.6 billion dollars worth of food according to the EPA. The leaders of this waste are consumers & food services such as restaurants & grocery stores. This is not only wasteful & extremely unfortunate for the 14% of American household who struggle to put food on the table, but also affects the environment harshly. Food waste is the second highest category of municipal wastes that is sent to landfills. That means 18% of our landfills are producing methane. This harmful waste to our environment is what many struggle to find every single day—Food.

Solution

A mobile application for truck drivers to match rejected shipment with a conveniently located food bank to donate shipment.

Audiences

Primary: Ind. Truck Drivers

Secondary: Food Banks

Tertiary: Distribution companies

Desired Outcome

Focusing on food waste in the trucking industry allows for a positive change to help to feed those hungry in the area. By utilizing this otherwise, un-utilized food we can but a dent in the amount of people that go to bed hungry every night.

Project Brief

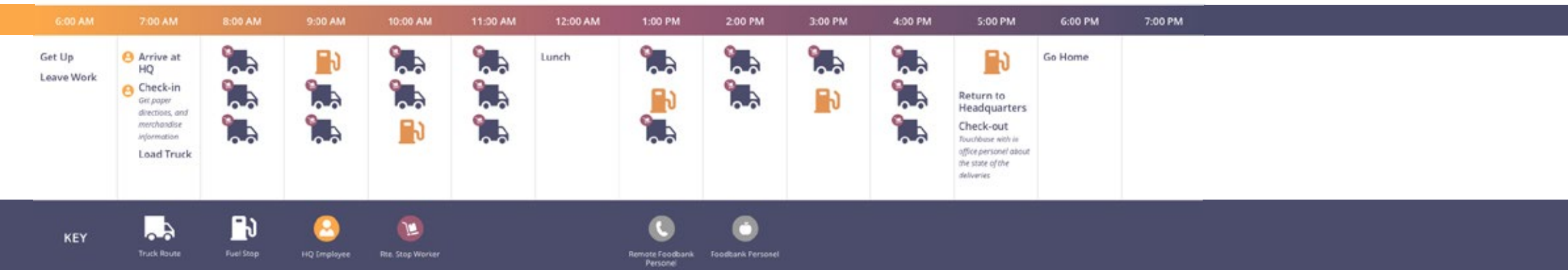
Ideation



After doing my due diligence of research, understanding my problem space, audiences, process, I began creating & analyzing possible solutions to this vast problem. The following section shares all the exploration that was done for solutions as well as tools that were created to help guide my process in the grounded scenario I was confronting.

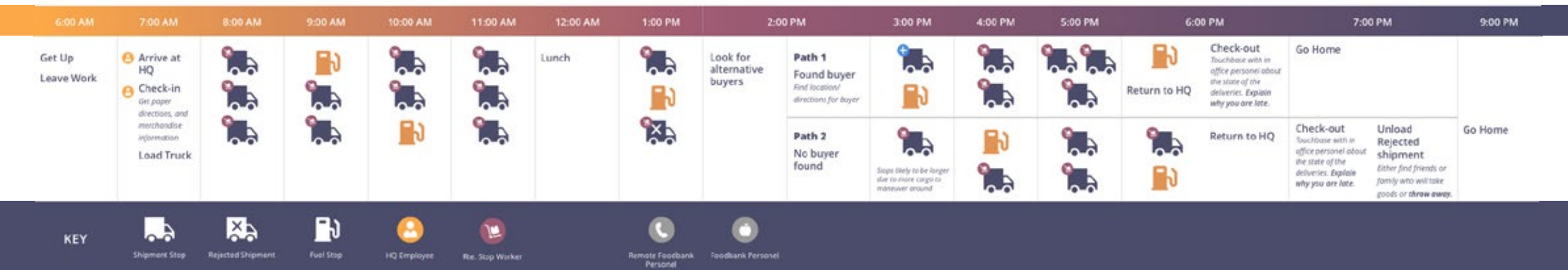
TRUCK DRIVER JOURNEY Map - Day Overview

(Current State) All Shipments Accepted



TRUCK DRIVER JOURNEY MAP - Day Overview

(Current State) Rejected Shipment



Need to Haves

—

Semi Truck Location Food Bank Location

Manifest Information	Details on Rejected Shipment
Route Stope	
Route Stop Location	Type of food rejected
Delivery at each stop	Reason for rejection
Quantity of delivery	Quantity of food rejected

Food Bank Properties	Details on Rejected Shipment
Size of storage space	
Freezer Space	Type of food rejected
Refrigerator Space	Reason for rejection
Parking	Quantity of food rejected
Unloading Dock	

Nice to Haves

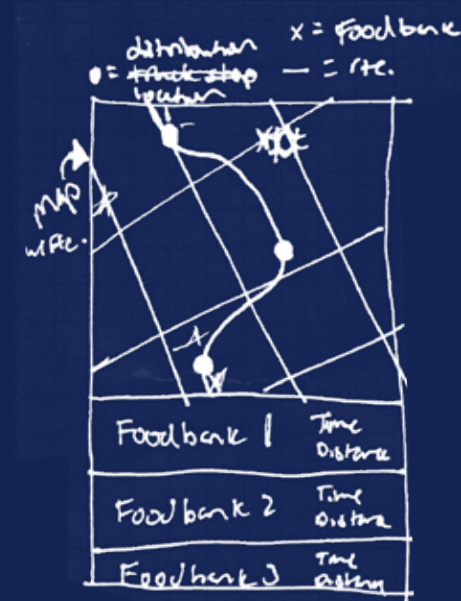
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Tax Exemption Log Favorited Food Banks

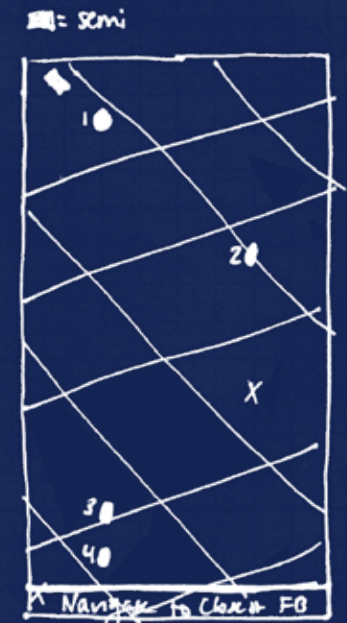
Recent Food Bank Visits	Manifest Digital Import
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Pen to Paper

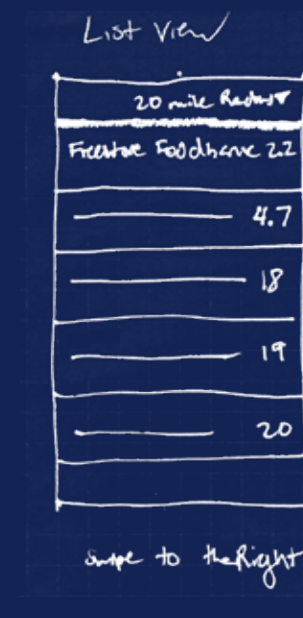
The Journey Map helped inform me what exactly was necessary to tackle this problem as well as allow me to have a foundation to bounce possible solutions off of the current experience. The following pages are the many iterations of trying to solve how to connect truck drivers with food banks.



Map of Route & List of Nearby Food Banks



Map of Route



List of Nearby Food Banks



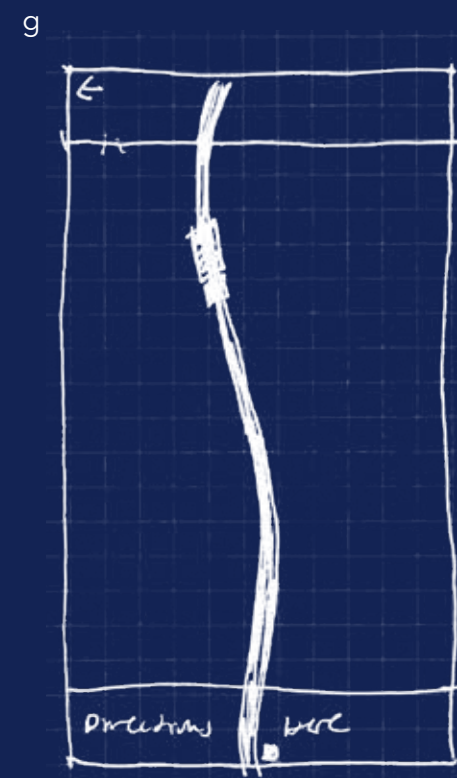
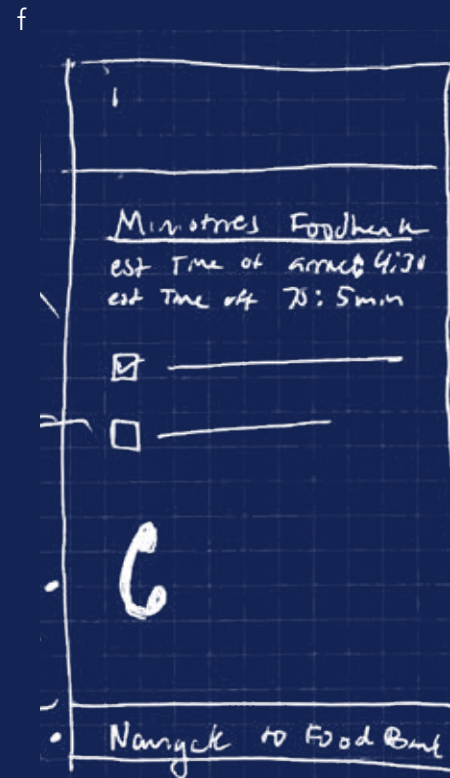
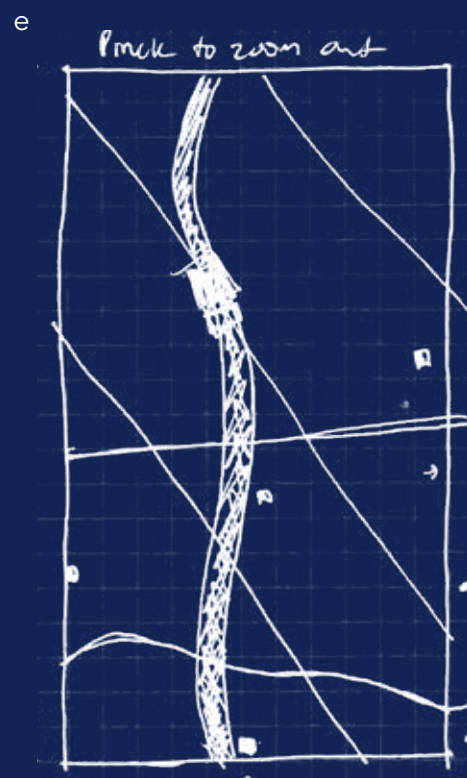
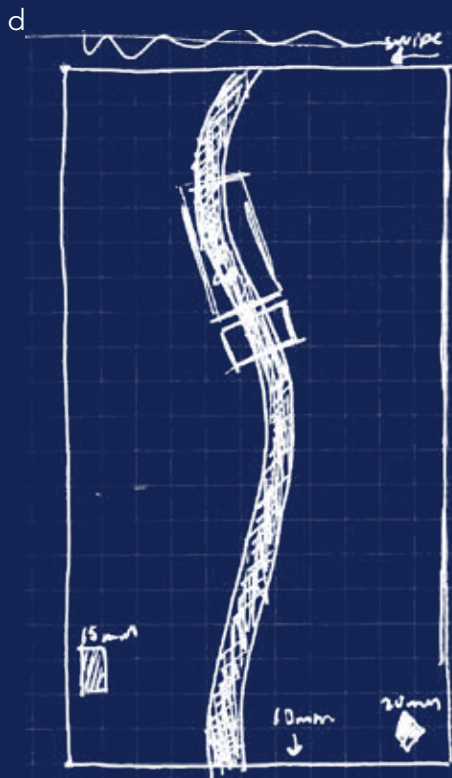
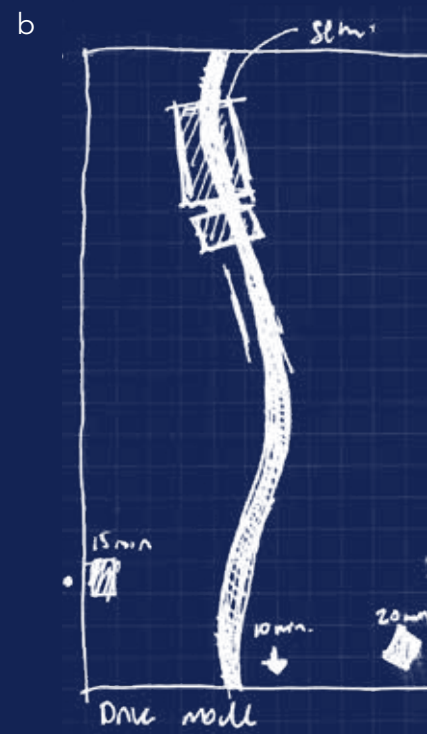
Drop Pin

Drop the pin in the area the driver wants to find food banks.

Drive Mode Flow

The concept of "Drive Mode" was that the driver would simply tap the Drive Mode button, & the app would search for food banks in a certain radius of the location of the truck.

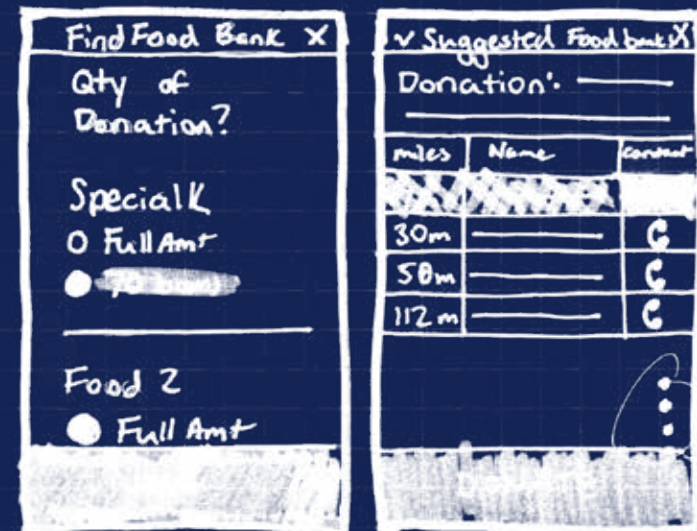
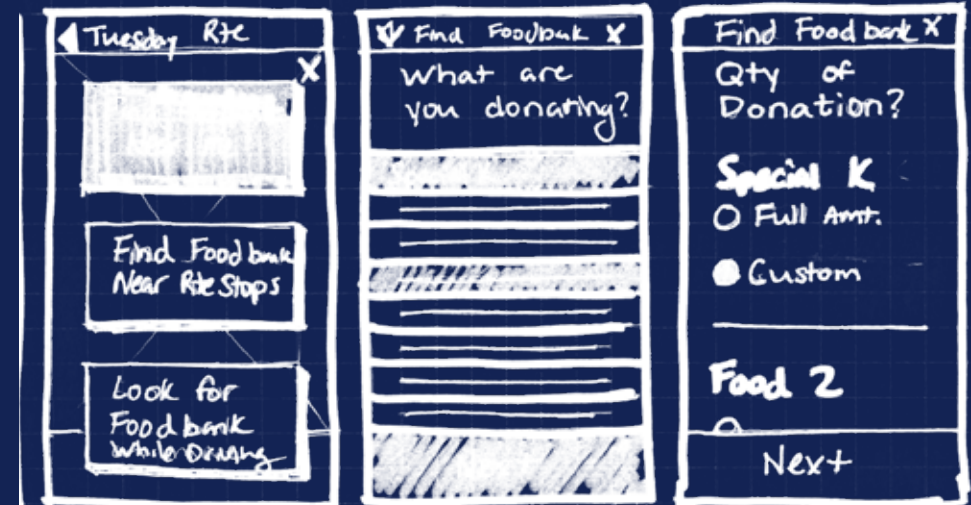
This flow was cut, due to the complications of interacting with the app while driving,.



Search Near Me/Filter Flow

When the initial idea occurred to me to create a mobile app to connect truck drivers to food banks, the initial screen that popped into my mind was a search nearby feature. To the right, shows wireframes exploring this idea.

Selected Saved Route - Look for Nearby Foodbank

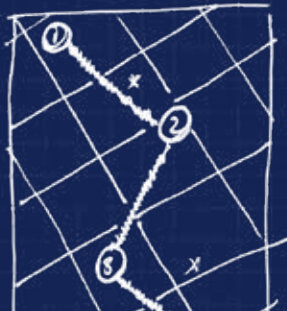
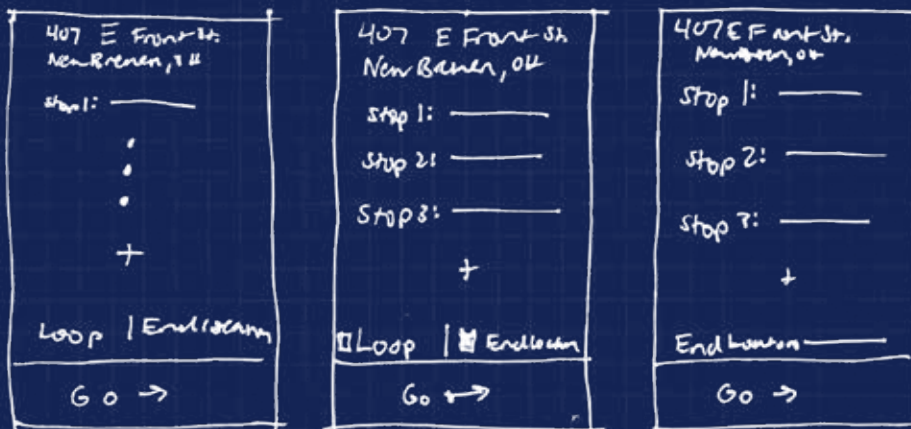
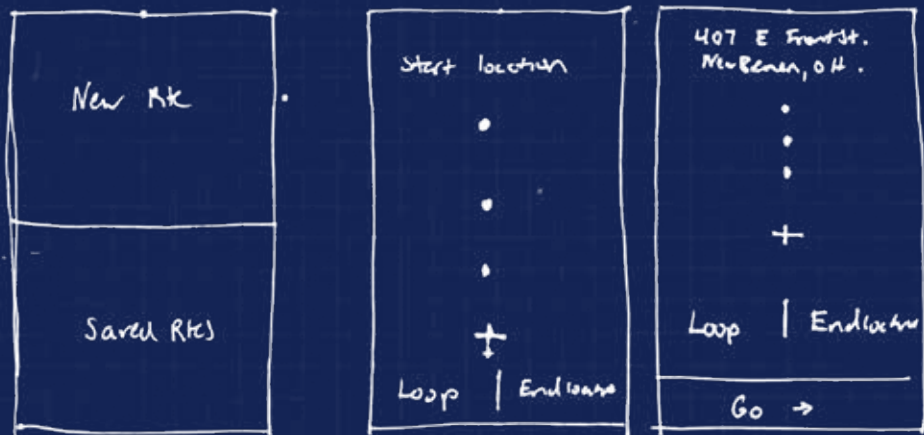


5 - insert custom donation amt

6 - Area Foodbanks suggested
(Based off food, only food banks w/ the specific equipment needed such as a refrigerator are suggested)

Adding Rte Stops

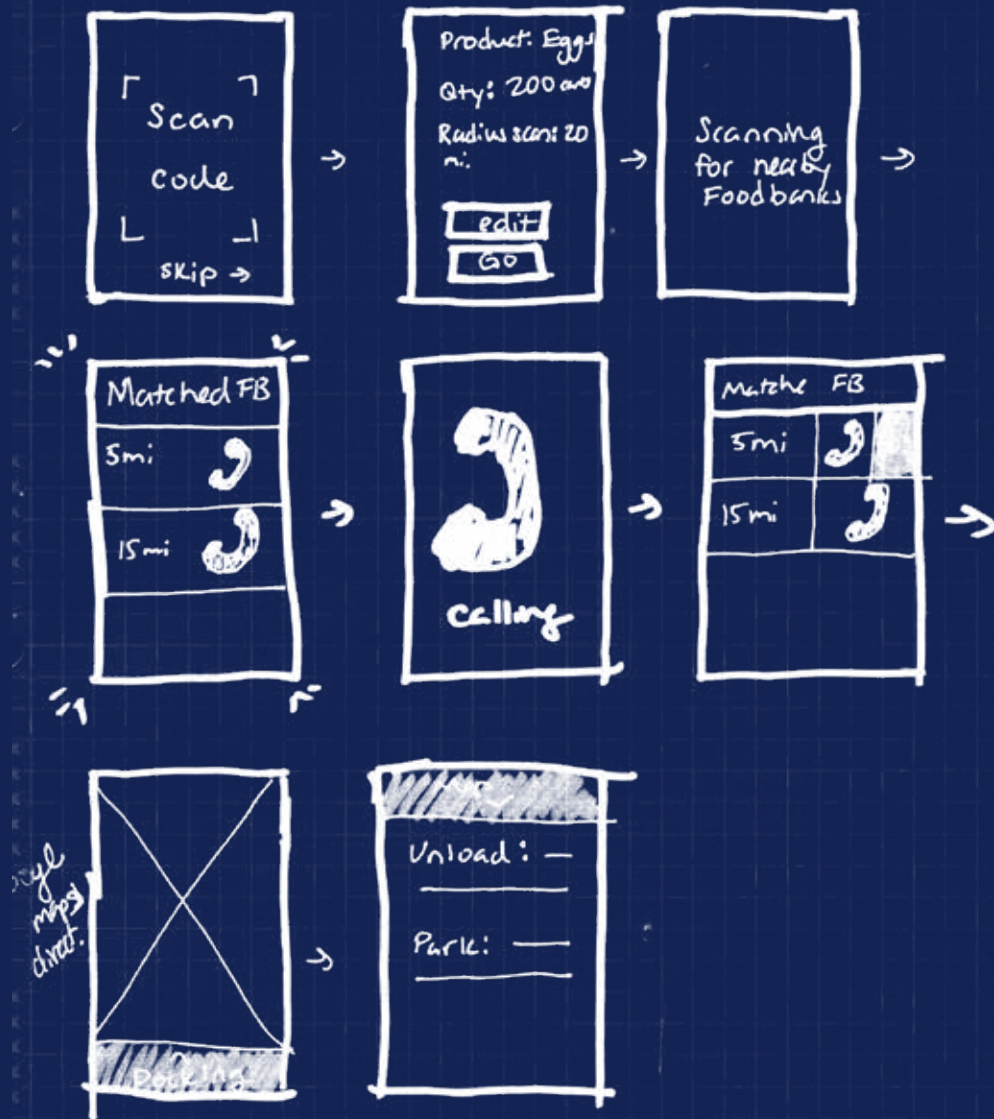
07/18



Add Route Flow Exploration

Based off speaking with Mr. Freeman, a contract truck driver, it occurred to me that the drivers have more time in the morning while prepping their truck, getting their manifest etc. Therefore, I explored how could I make it easier & less time intensive for a driver to find a food bank when a shipment is rejected.

On the flow to the right, I explored the idea of adding all the stops & details for the stops throughout the day. Therefore, the system could filter out food banks without inserting that information in the middle of the day.



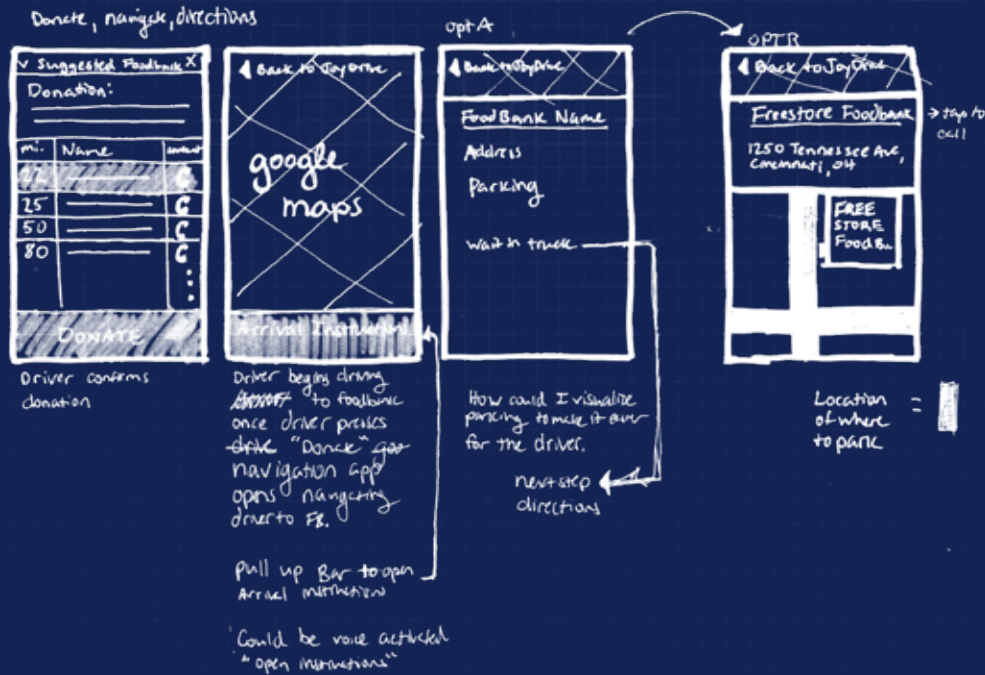
Import Manifest Flow

Exploring the "Add Route/Manifest" flow made it apparent that a less intensive way to import this data was necessary to be effective. Therefore, I explored ways of importing data through QR codes, & then later expanded on the idea by adding email, Google Drive, text message & more.



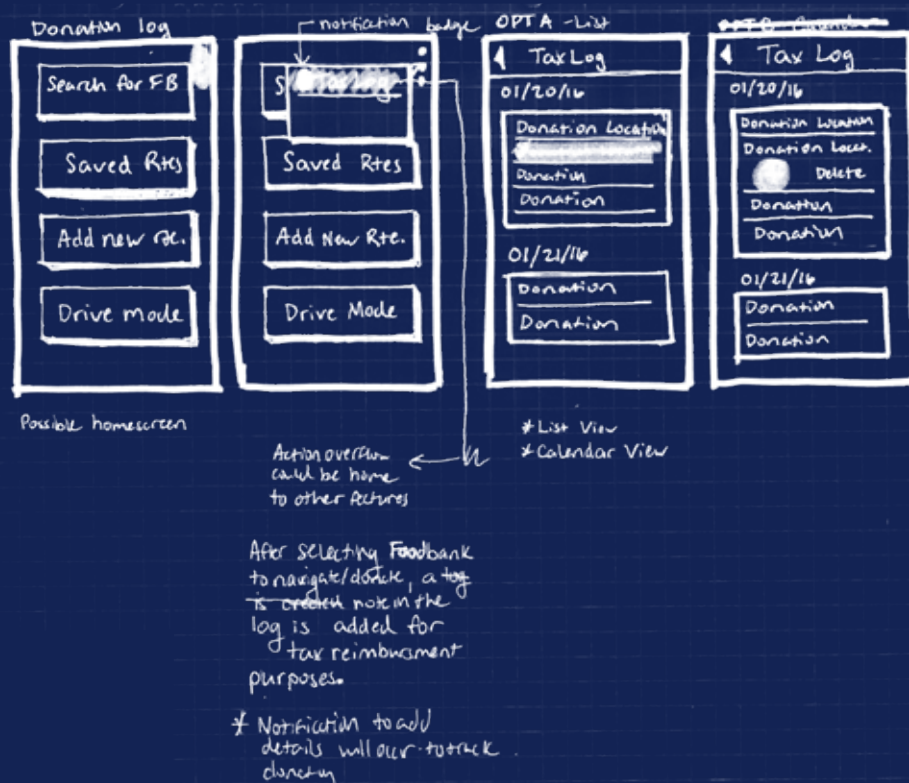
Existing/Saved Route Flow

After the idea of adding a route or manifest, it seemed like common sense that a user should be able to save these routes. Above are wireframes of this early exploration.



Navigate to Food Bank Flow

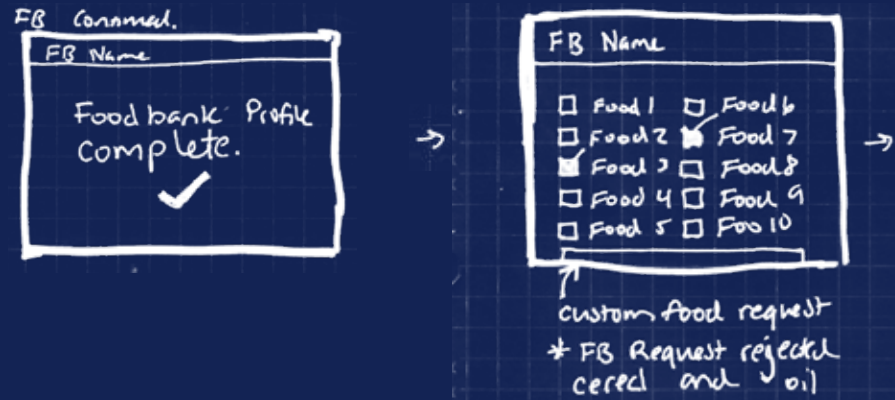
Regardless of how you find your food bank on the application, a user needs a clear way to understand how to select them to navigate to them. In the flow to the left, the app utilizes Google Maps because that is the current way many truck drivers navigate.



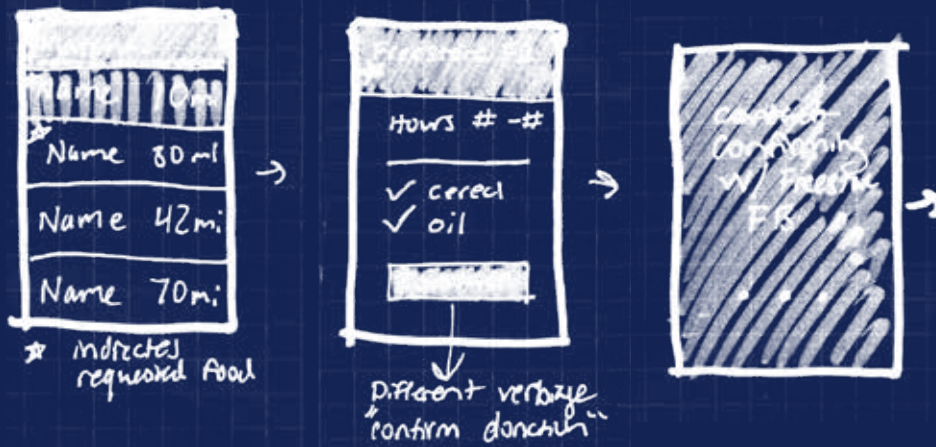
Tax Log Flow

Since a big incentive to donate the rejected goods is a tax exemption, I explored the idea of a log to contain this information. I later found out that many food banks provide a tax exemption sheet. Therefore it seemed unnecessary to the application.

a



b



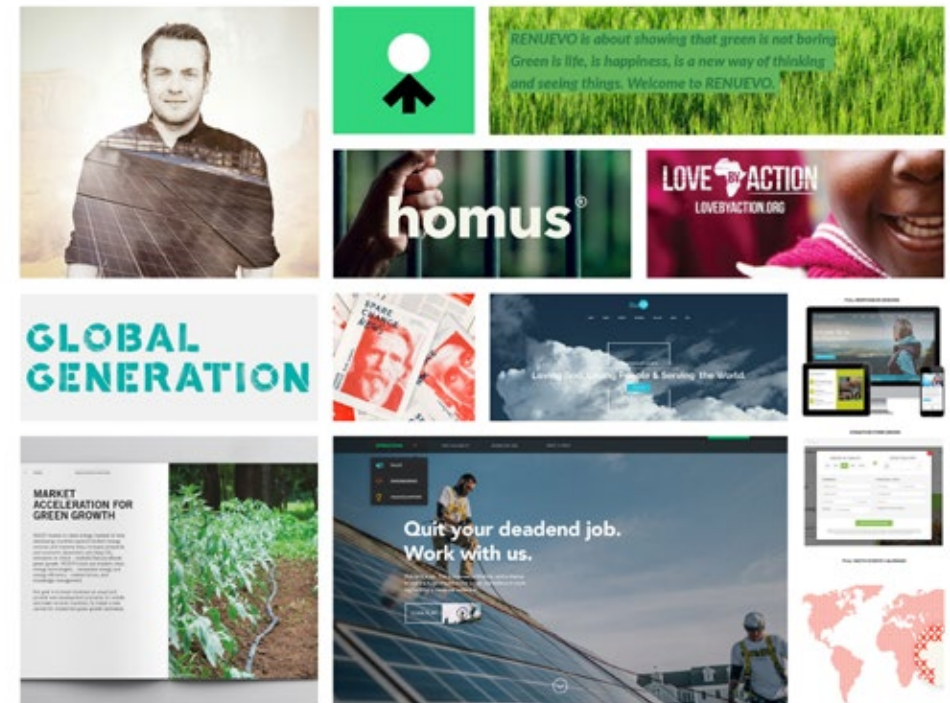
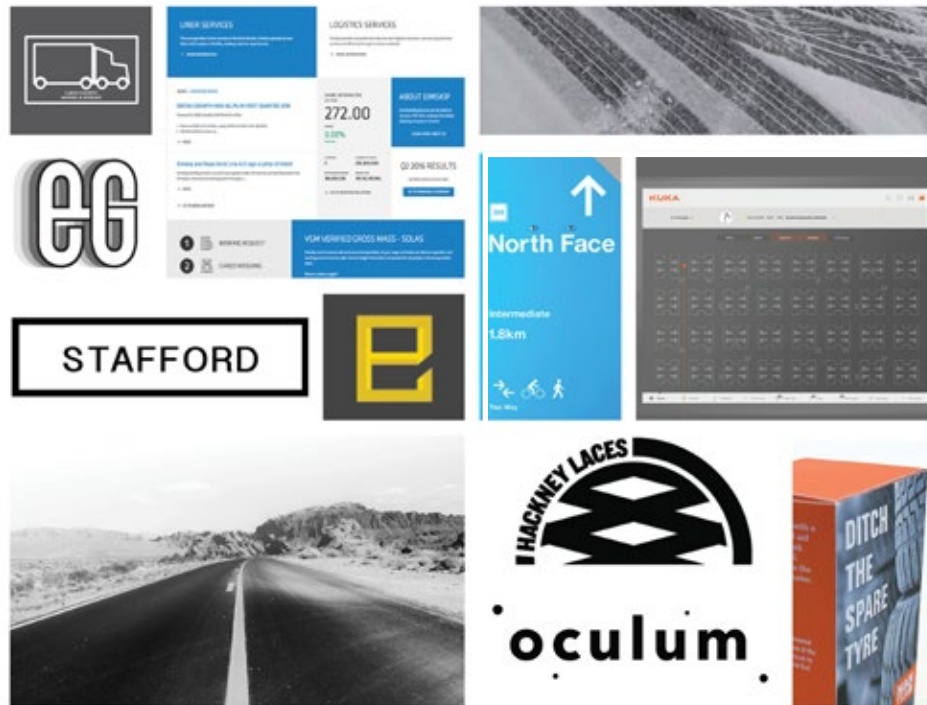
Food Bank System Exploration

During many reviews, multiple times individuals asked will there be a food bank side to the application. Although my research reassured that no system would be maintained amongst the volunteers, I explored this concept anyway to see if I could make a system without any maintenance.

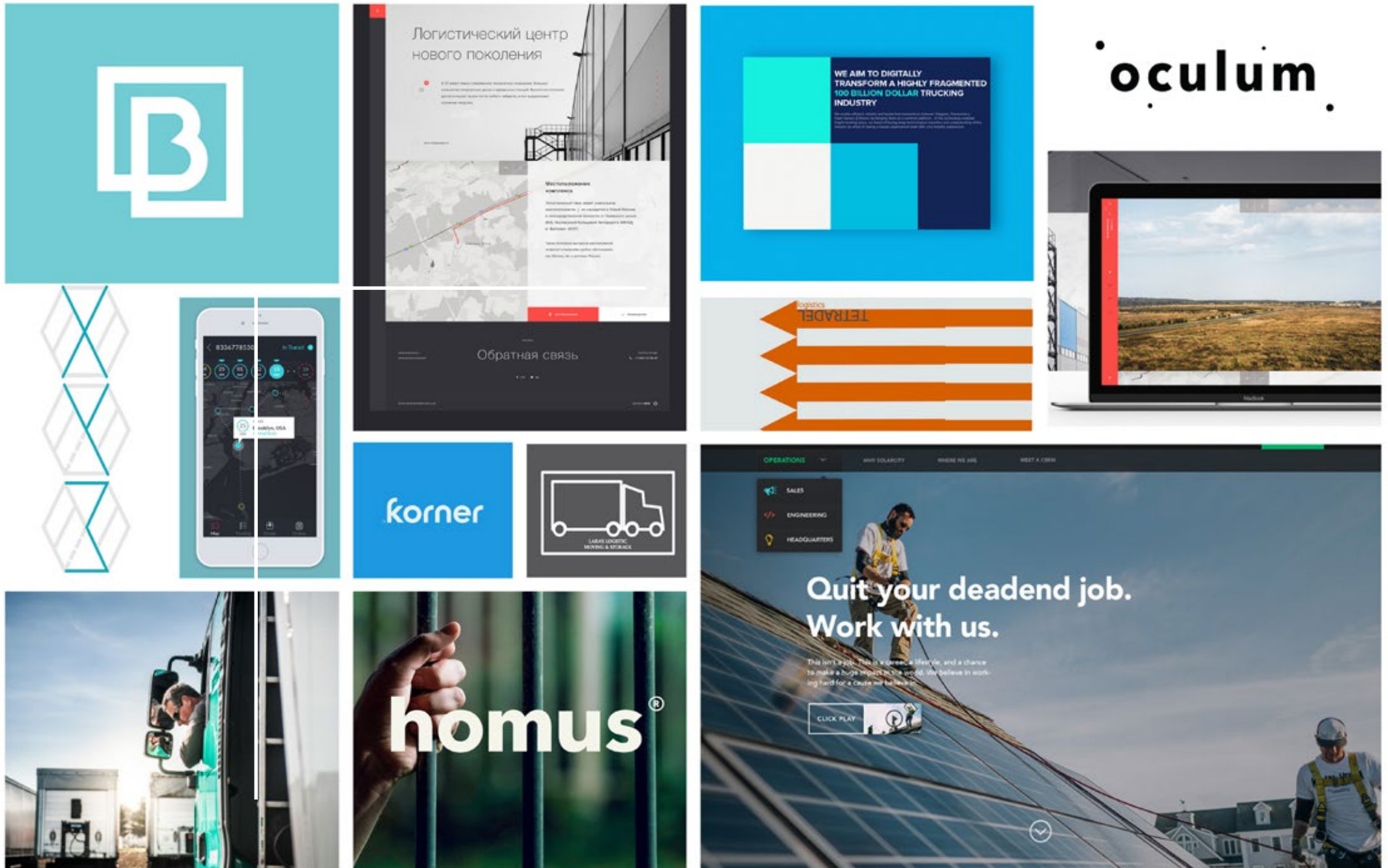
Branding

Although the visual design is a critical component, it was less of a focus compared to the overall system & experience of the application. The branding was explored through variations of mood boards.

Mood Board Variations



Final Mood Board



Logo

A variety of names were brainstormed for the application including: The Trip, Give & Drive, DOnate, Give Food, Will Drive, Do Good, Truck Feed, Joy Ride. Ultimately JoyDrive was selected.

While creating the logo, I was inspired by the roads and paths followed. Therefore, the horizontal lines reminiscent of a road are carrying shape to hold the name "JoyDrive".



JOYDRIVE



JOYDRIVE



JOYDRIVE



JOYDRIVE

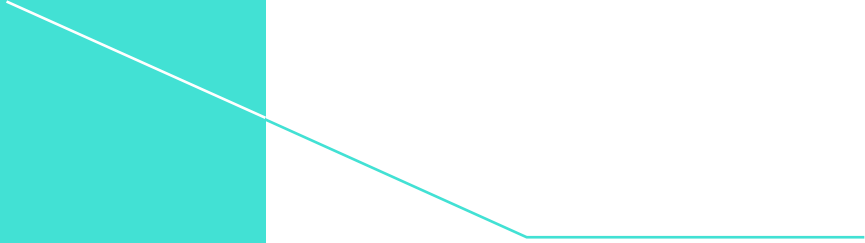
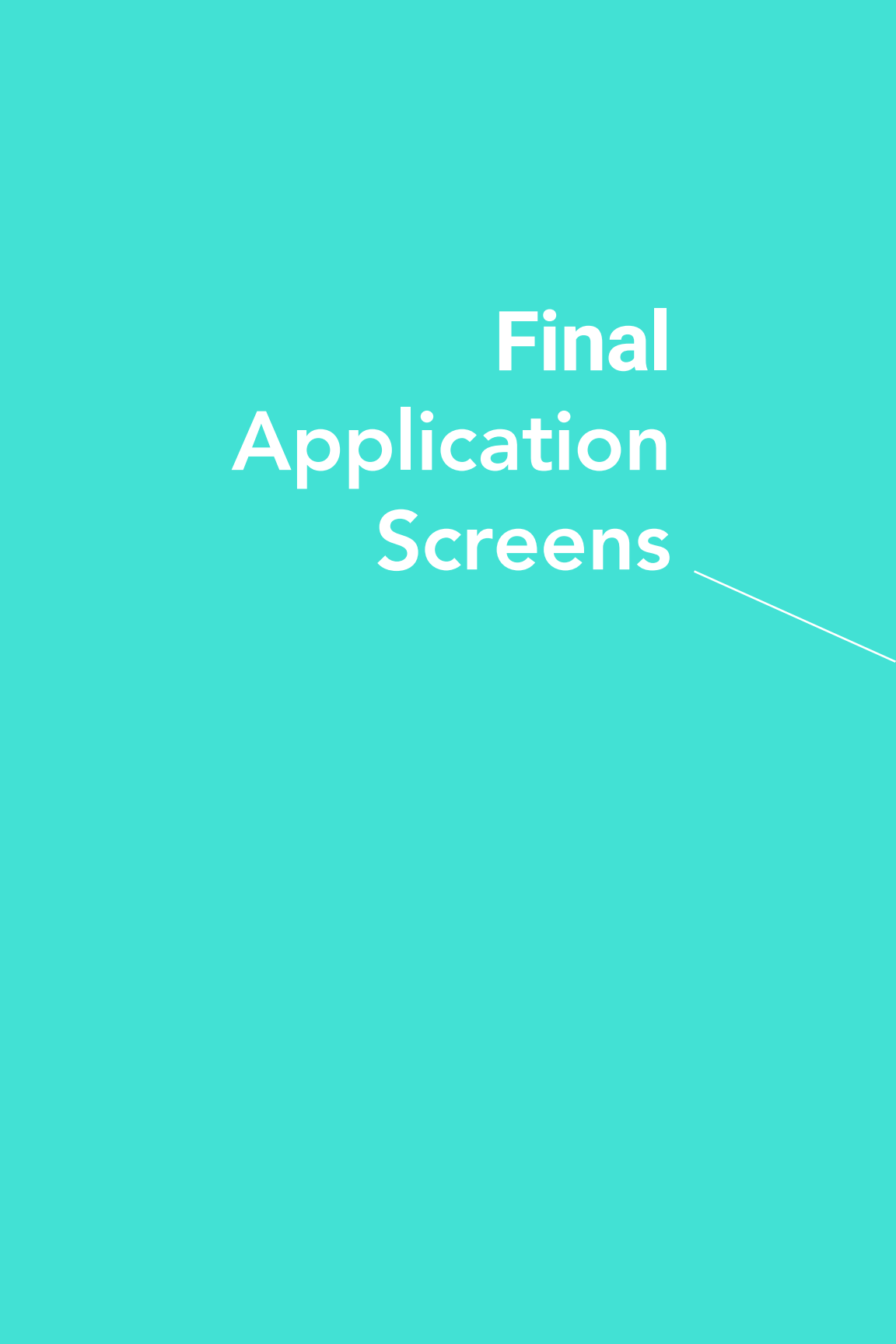


JOYDRIVE



JOYDRIVE

Final Application Screens

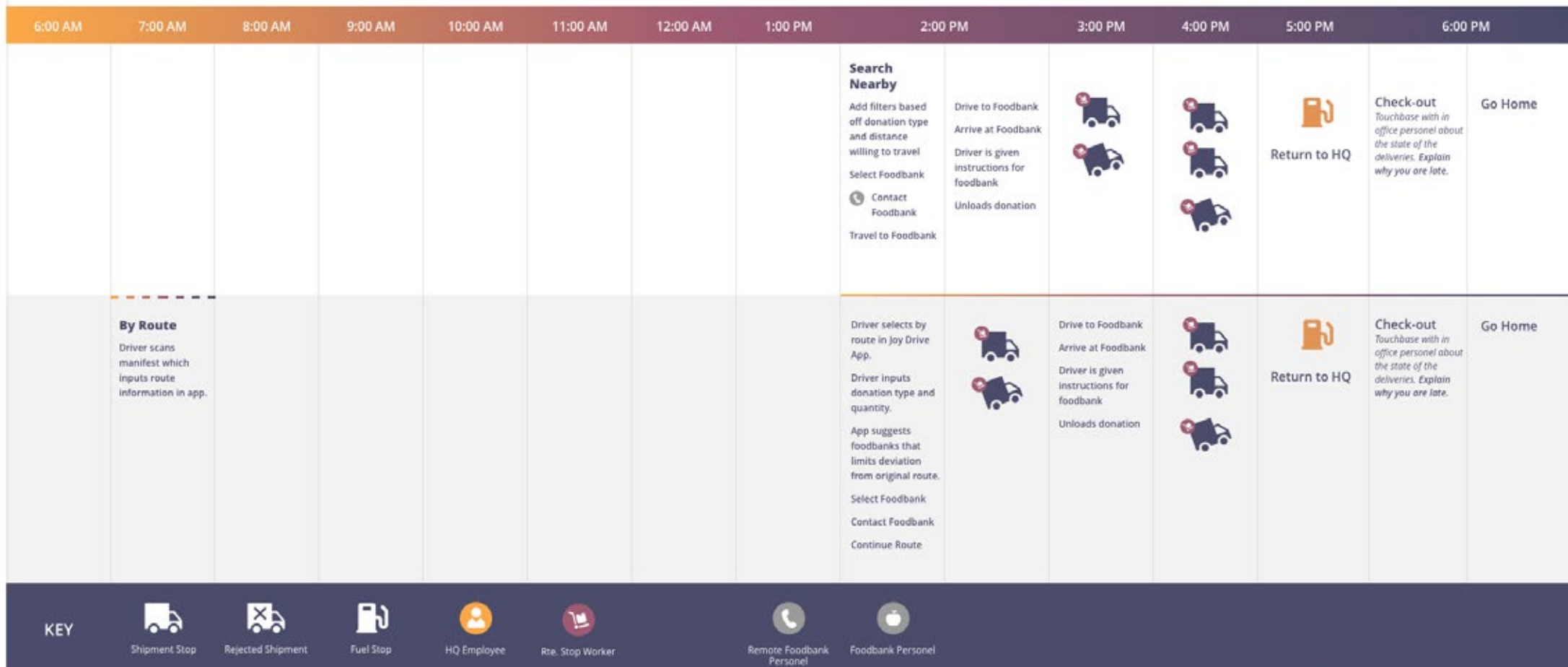


The following section is the creation of all the effort coming up to this point. Starting with my initial inspiration at a Reds game through research, ideation, branding, & finally the final system to my mobile application.

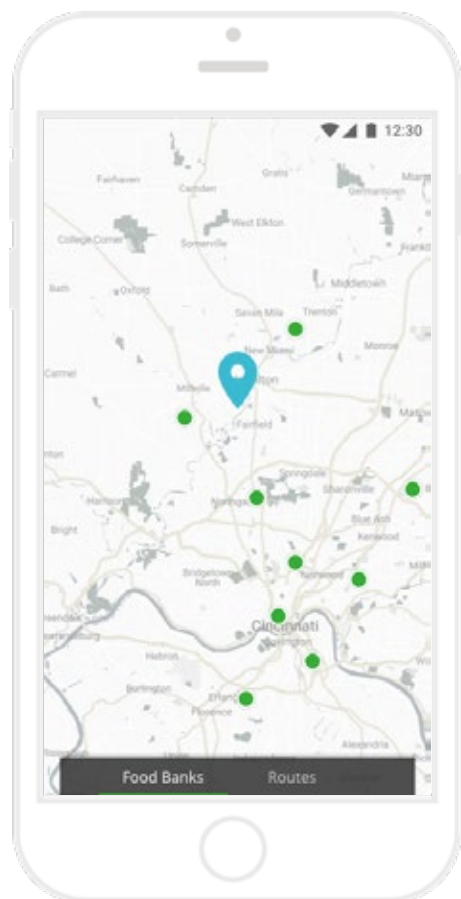
TRUCK DRIVER JOURNEY MAP

DIRECTORY

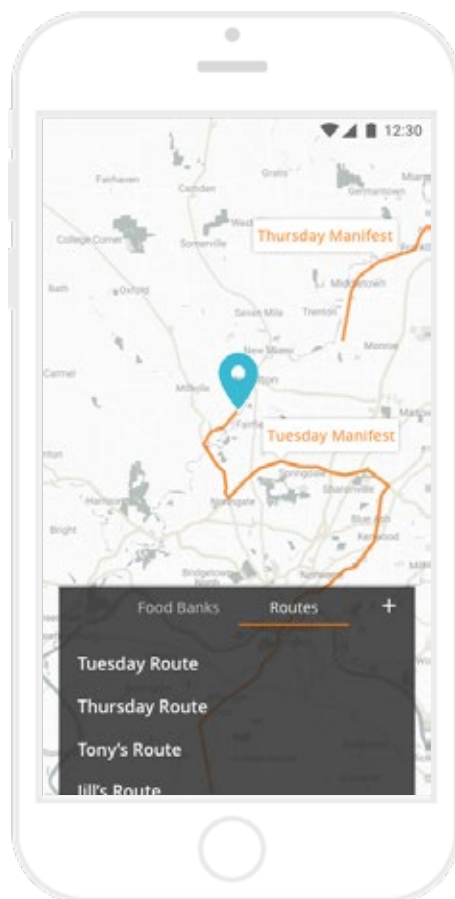
ADD ROUTE/ROUTE LIBRARY



Landing Screen

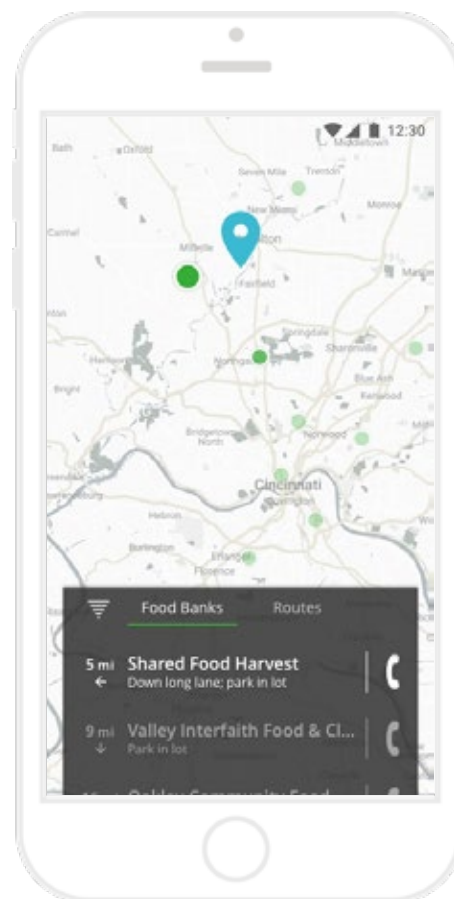


Food Bank Selected

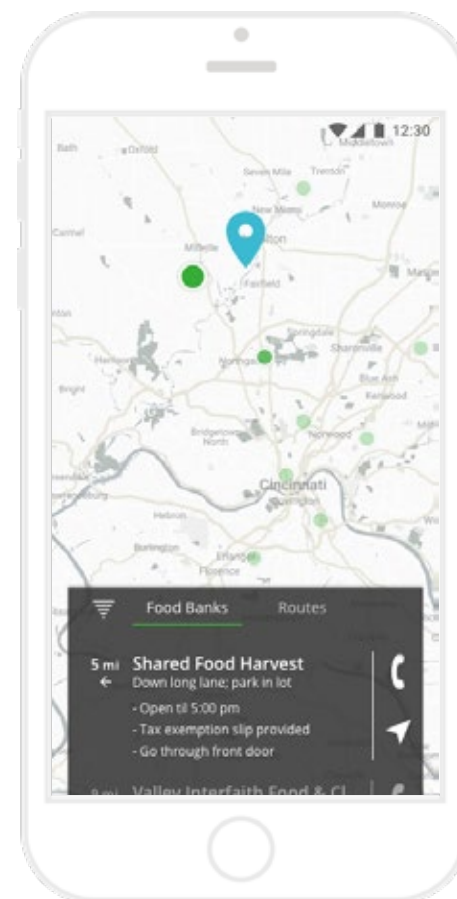


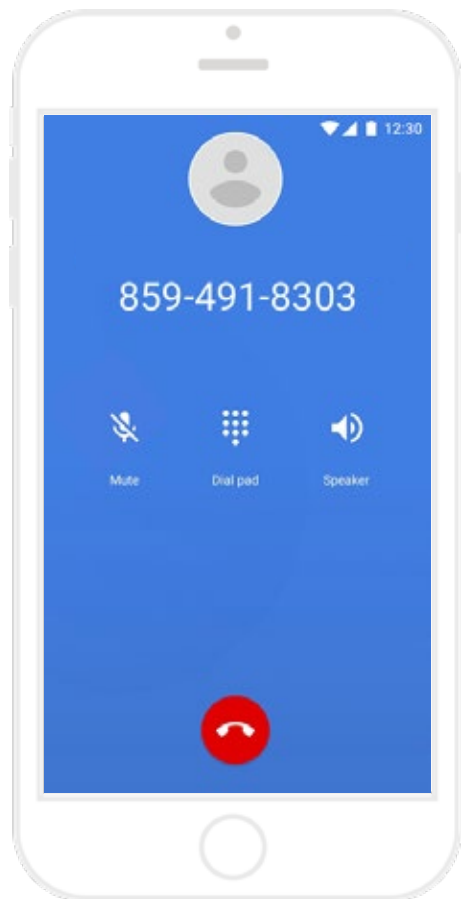
Routes Selected

Food Bank Mode

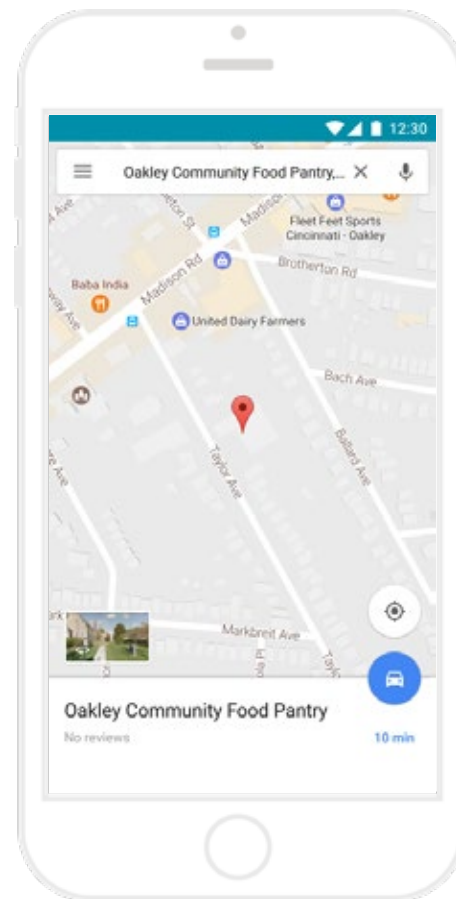
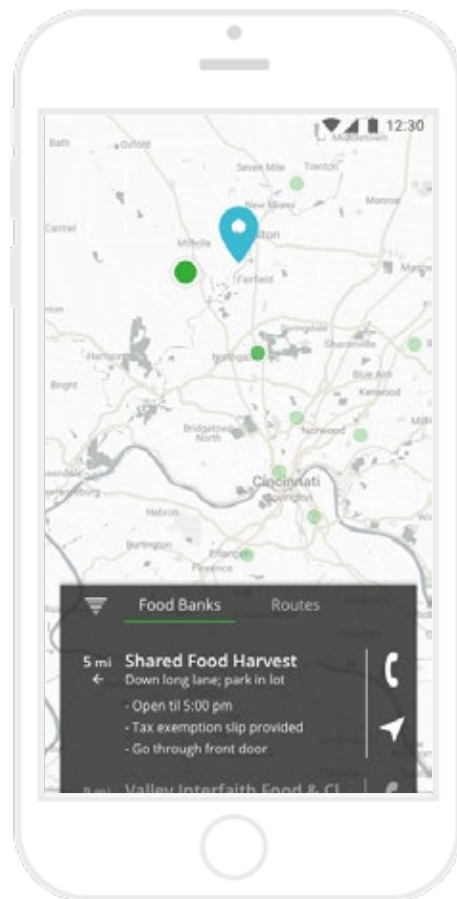


The Food Bank mode allows a driver to search for food banks near their current location



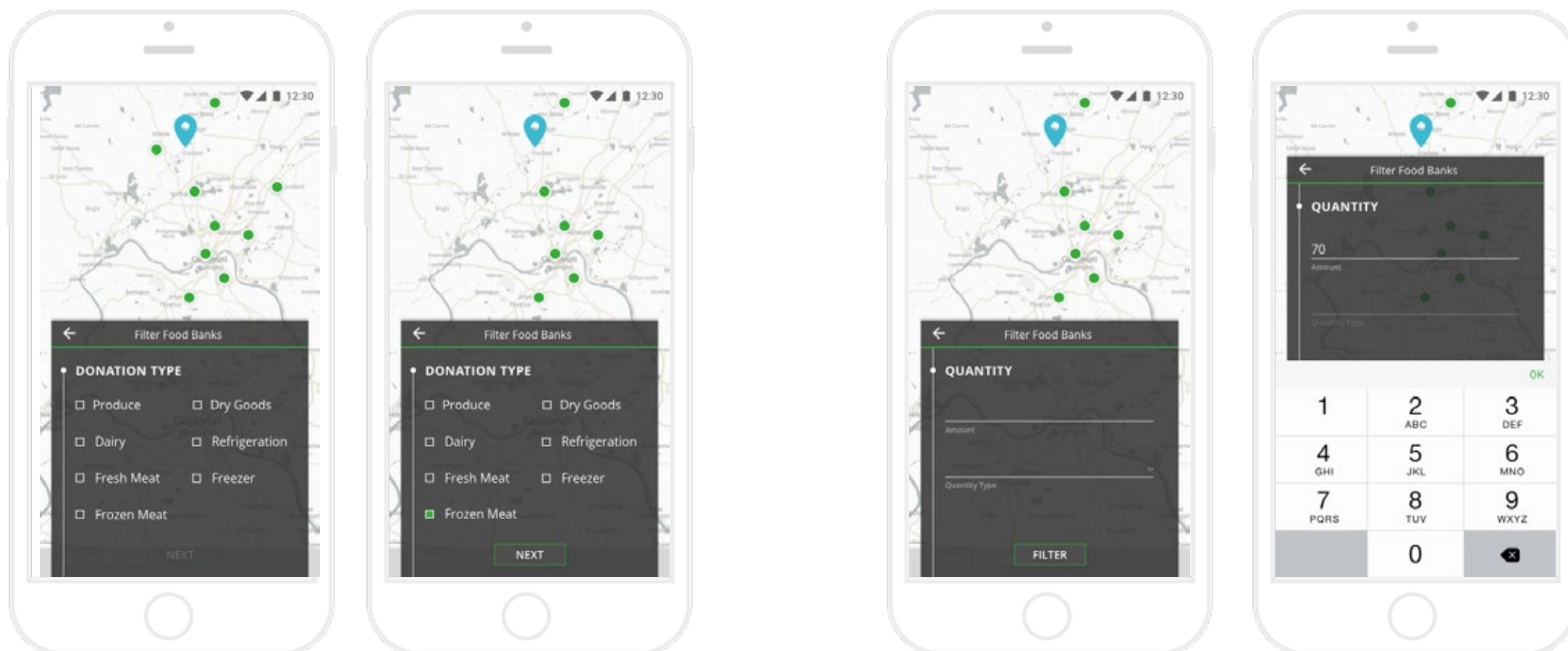


The truck driver calls the food bank to inform them that they will be coming.



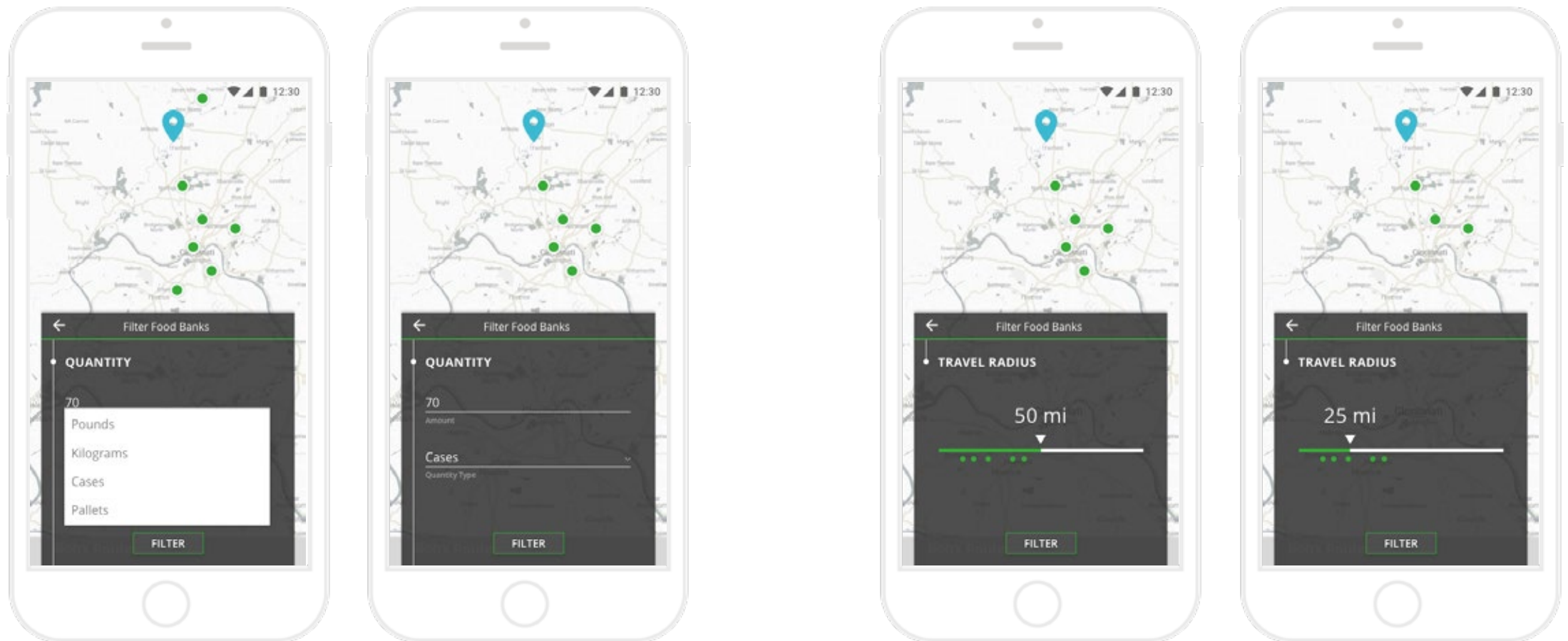
The driver then jumps to Google Maps to navigate to the food bank.

Food Bank Filter

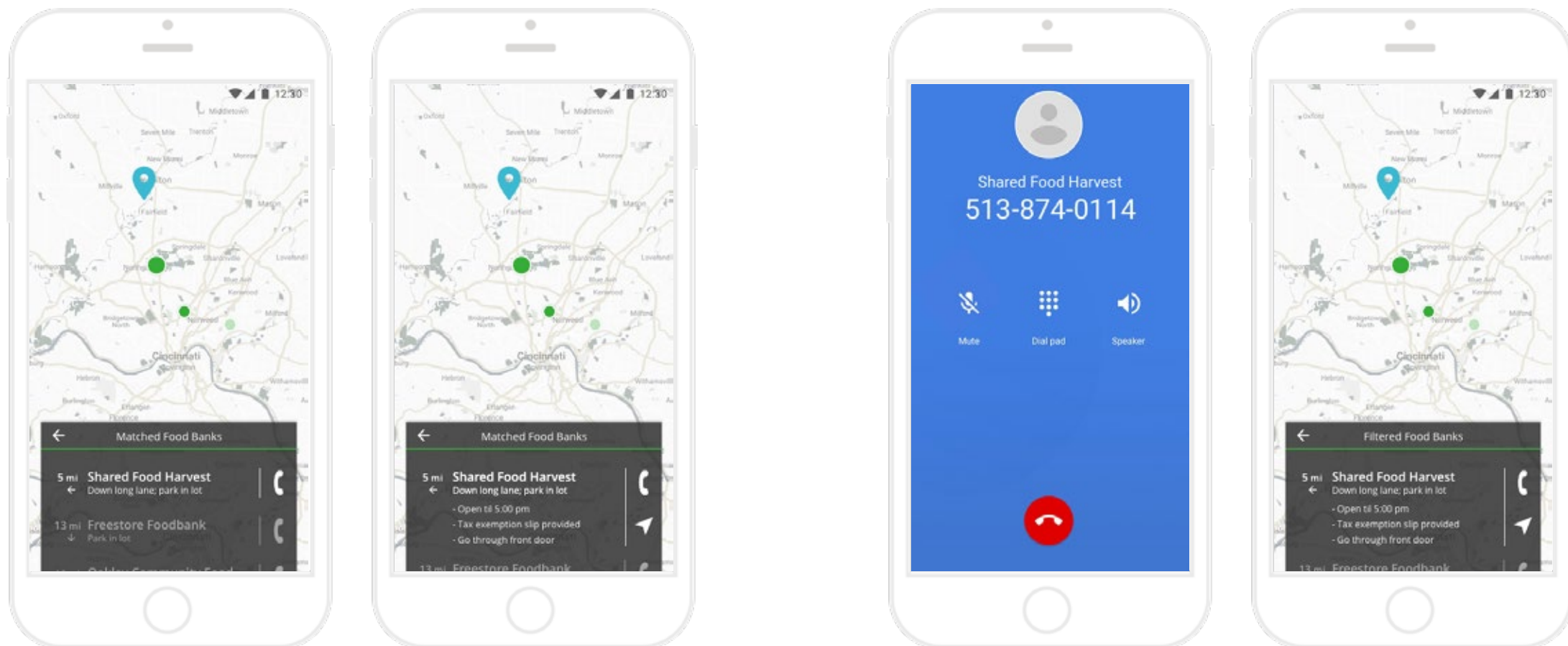


Directory - Filter

When selecting the filter button, the user can then filter through the area food banks based on their donation.

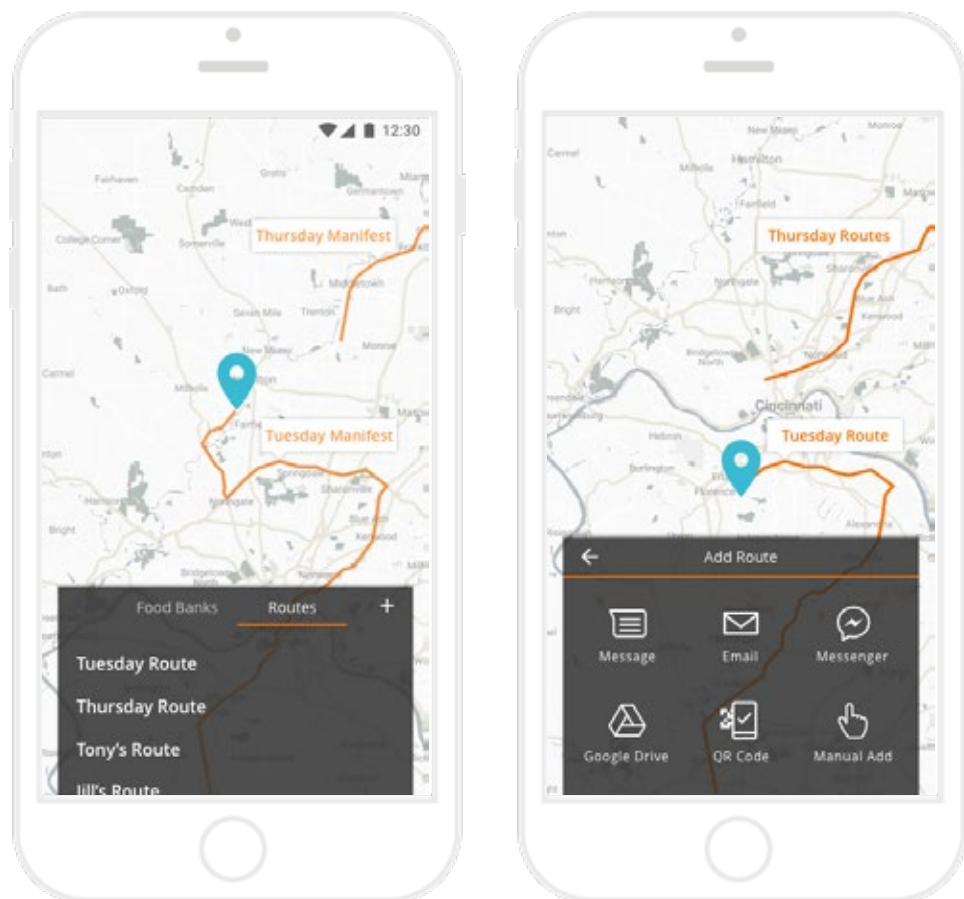


Directory Filter Continued...



Directory Filter Continued...

Import Manifest

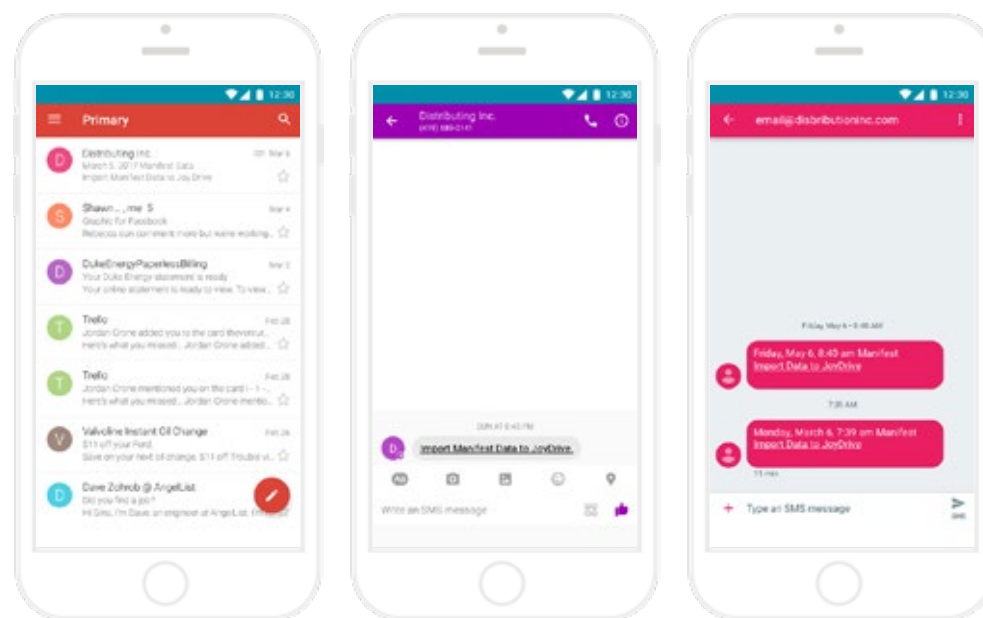


Import Manifest

Import the manifest to quickly and easily add all the information needed about a daily route to pre-filter food banks.

Import Manifest

The import feature of the application utilizes CSV to import the data from the head quarters to the application. There are a variety of ways this data can be transferred including email link, link by message, or a QR Code.

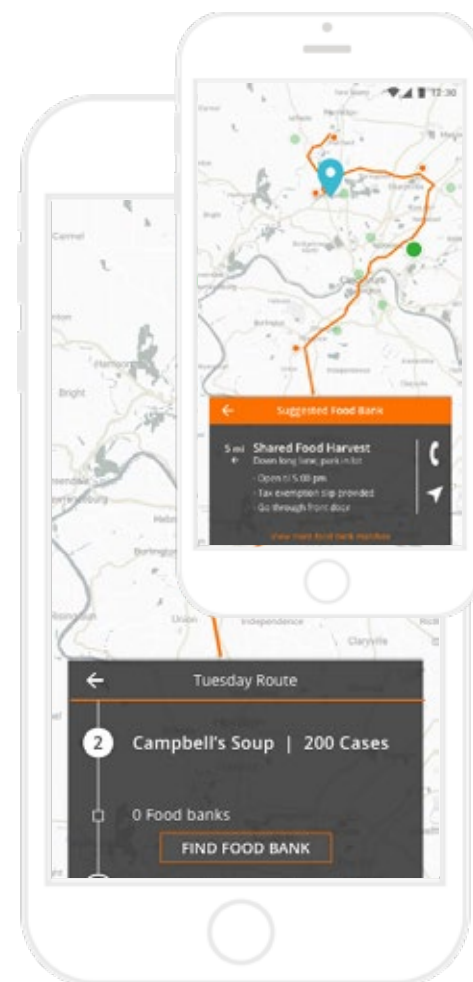
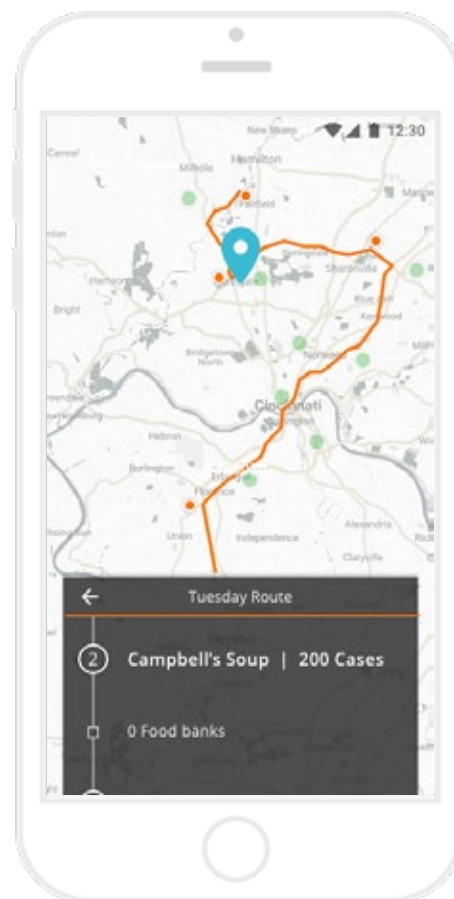
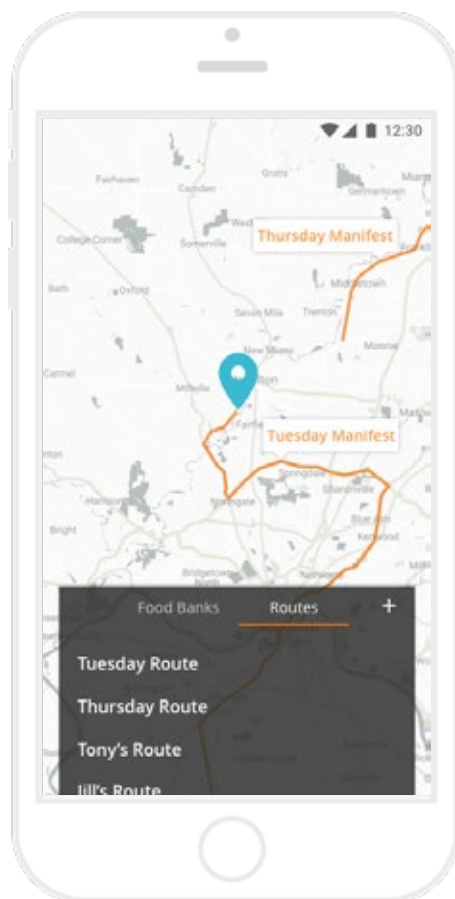
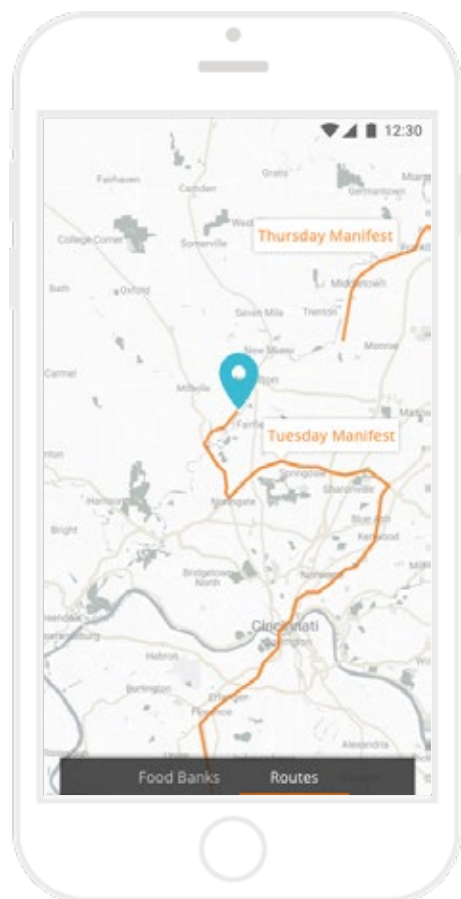


Import by Email

Import by Facebook Messenger

Import by Text

Route Mode



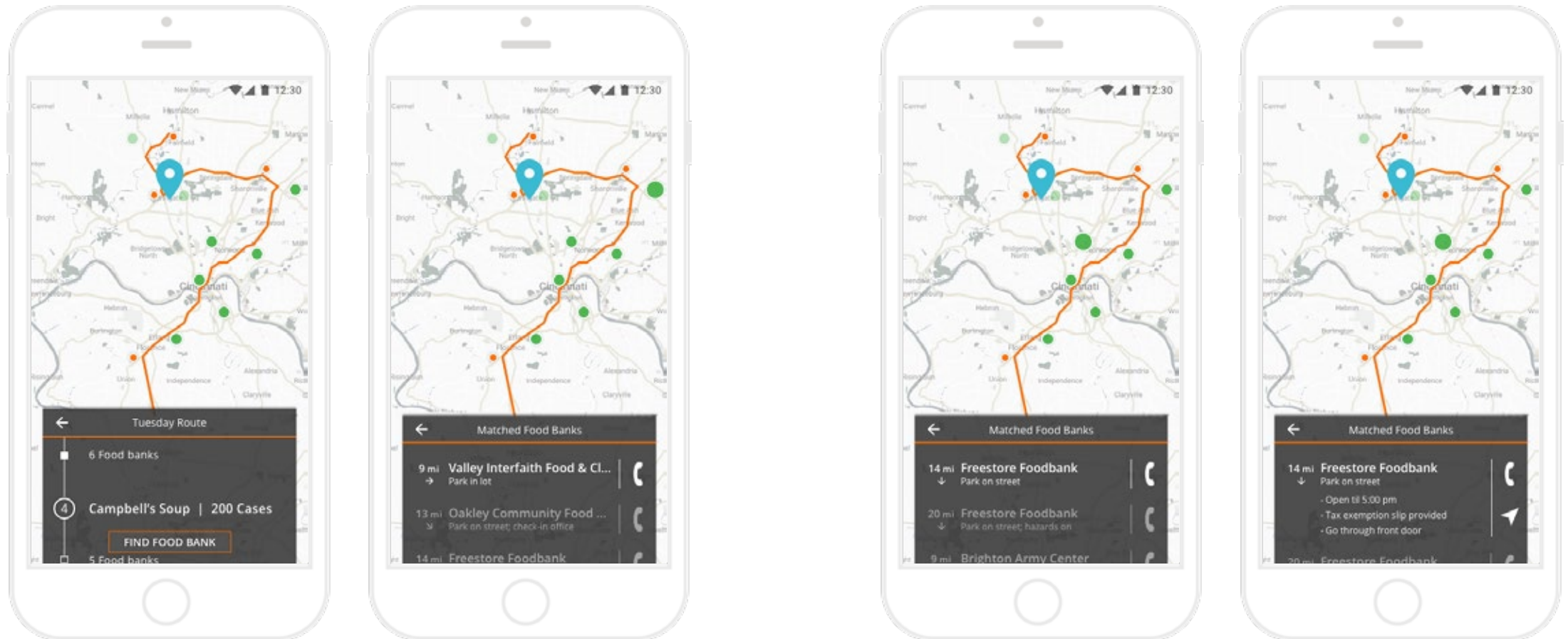
Route Mode

The library is where all the imported manifests are saved to access at any time.

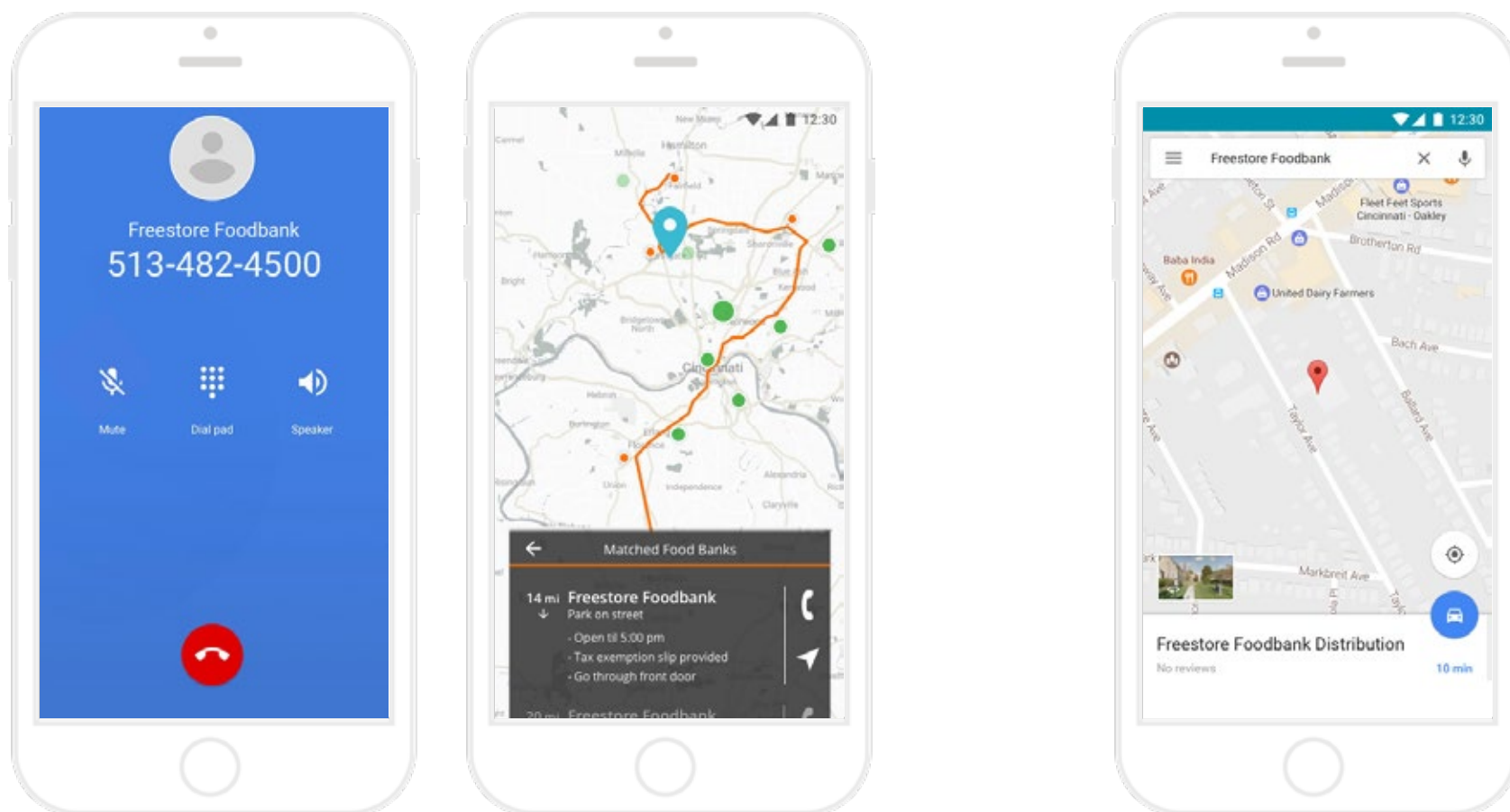
Route Mode Continued...

Select the circle next to the donation that is going to be donated.

At this point, the user either can select "Find Food Bank" or can select a square between route stops to indicate between where you would like to donate your shipment.

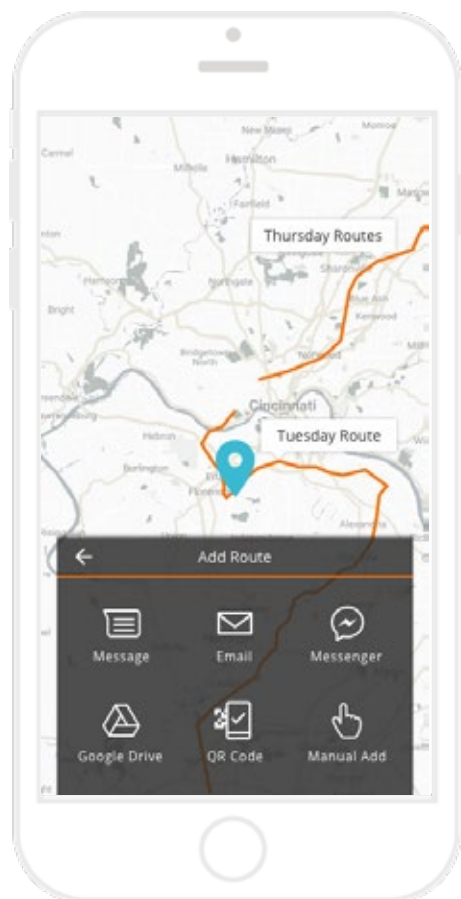


Route Mode Continued...

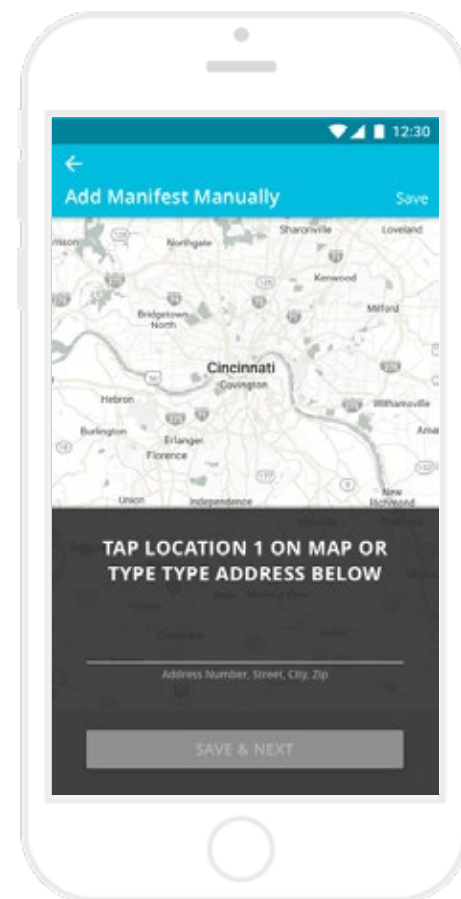
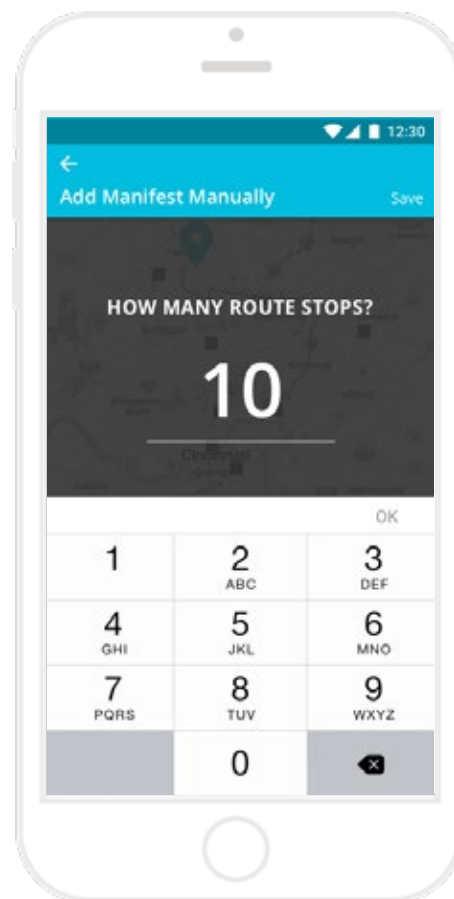
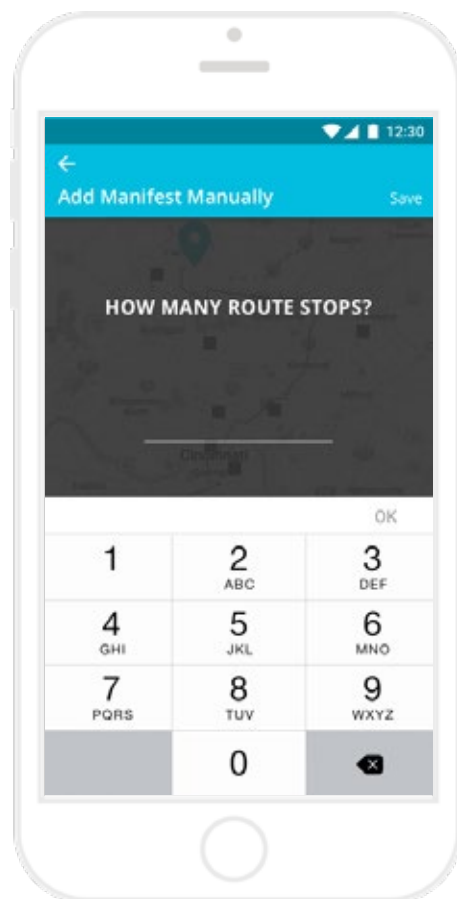


Route Mode Continued...

Import Manifest Manually

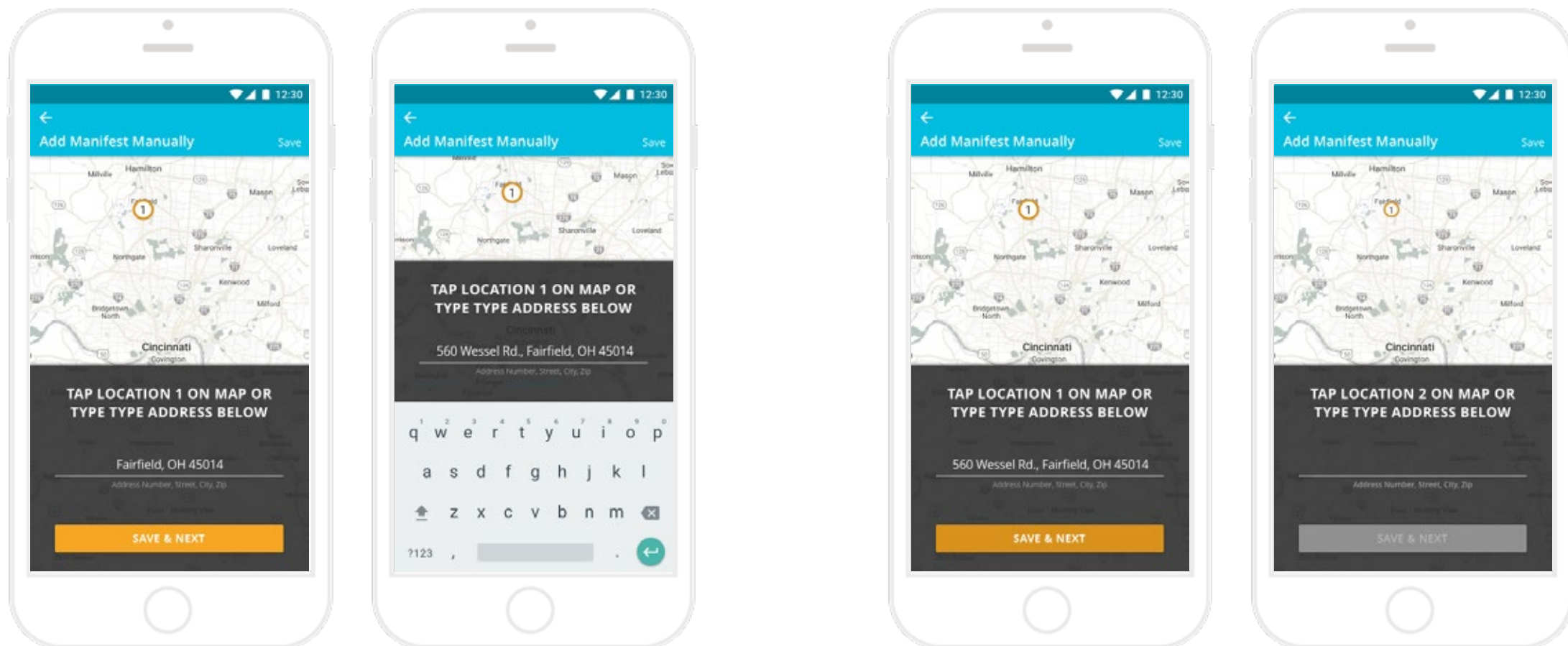


Import Manually

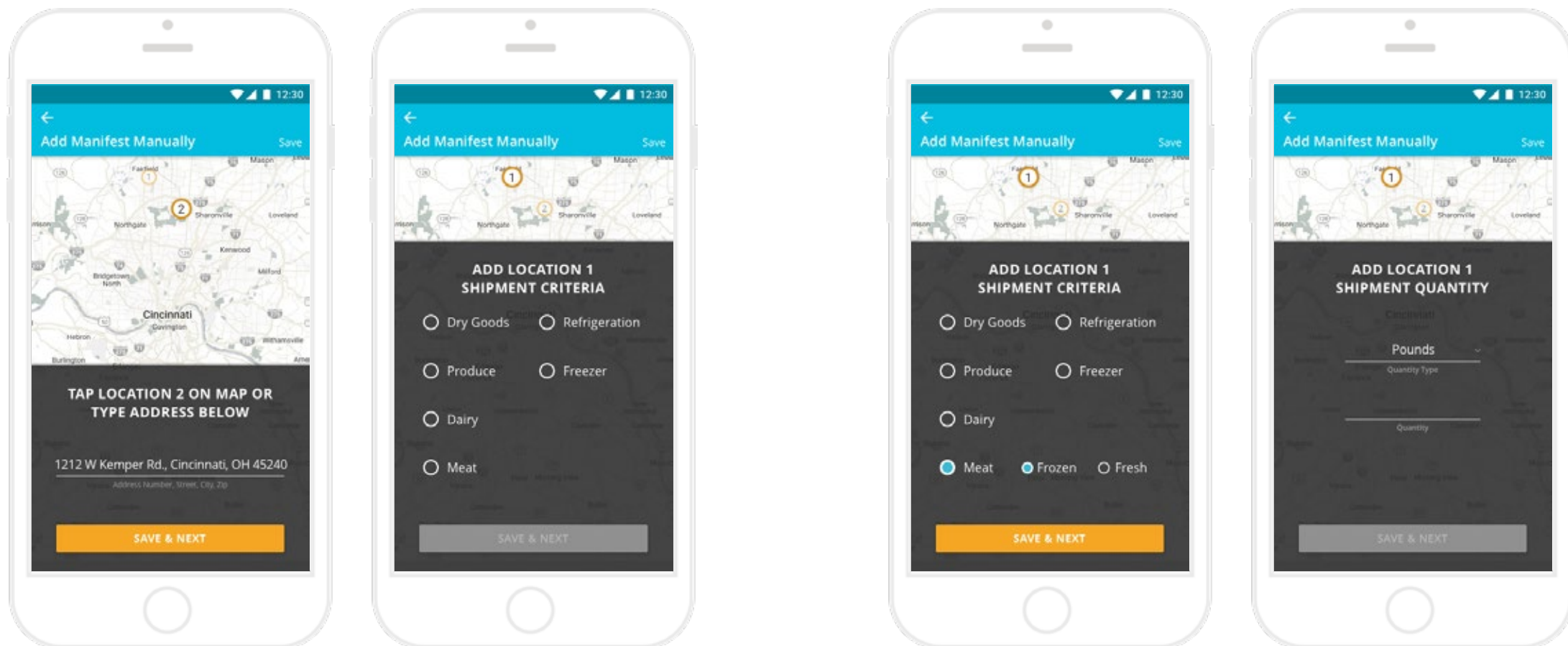


Import Manually Continued...

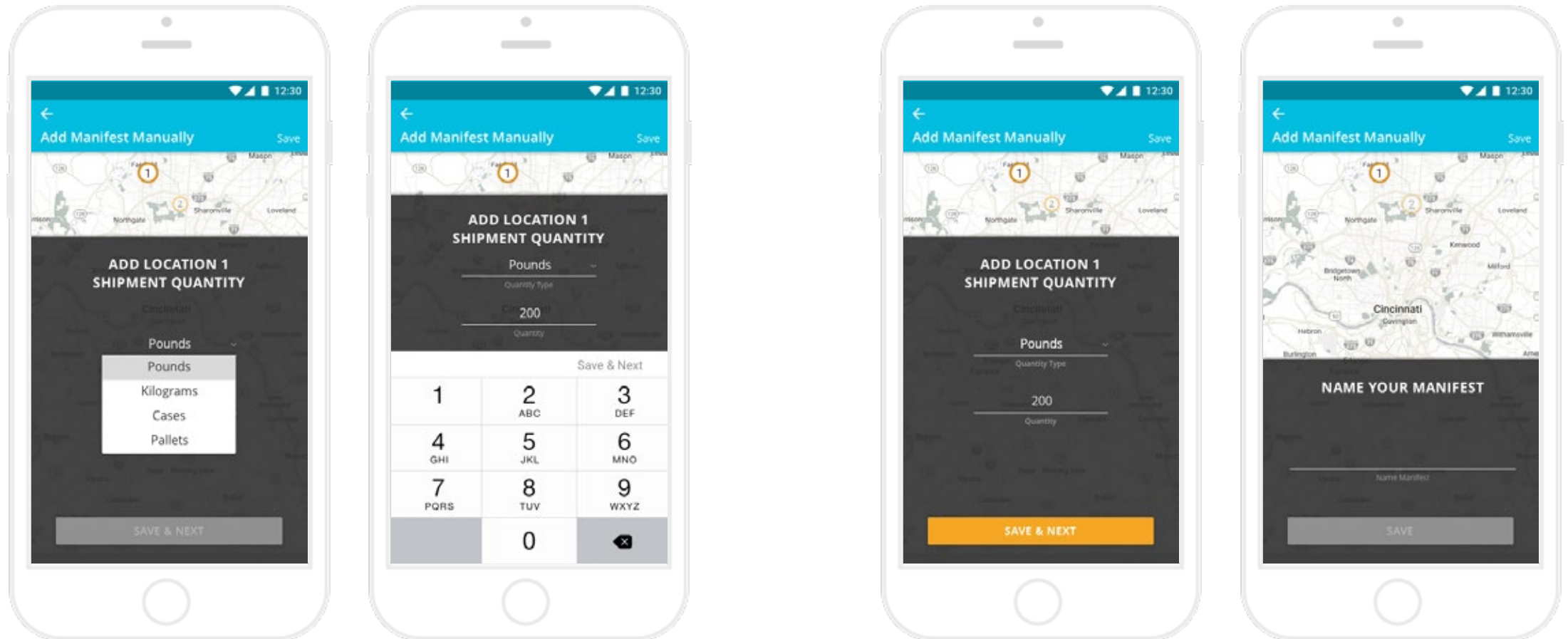
Steps would repeat based on the amount of stops on the manifest.



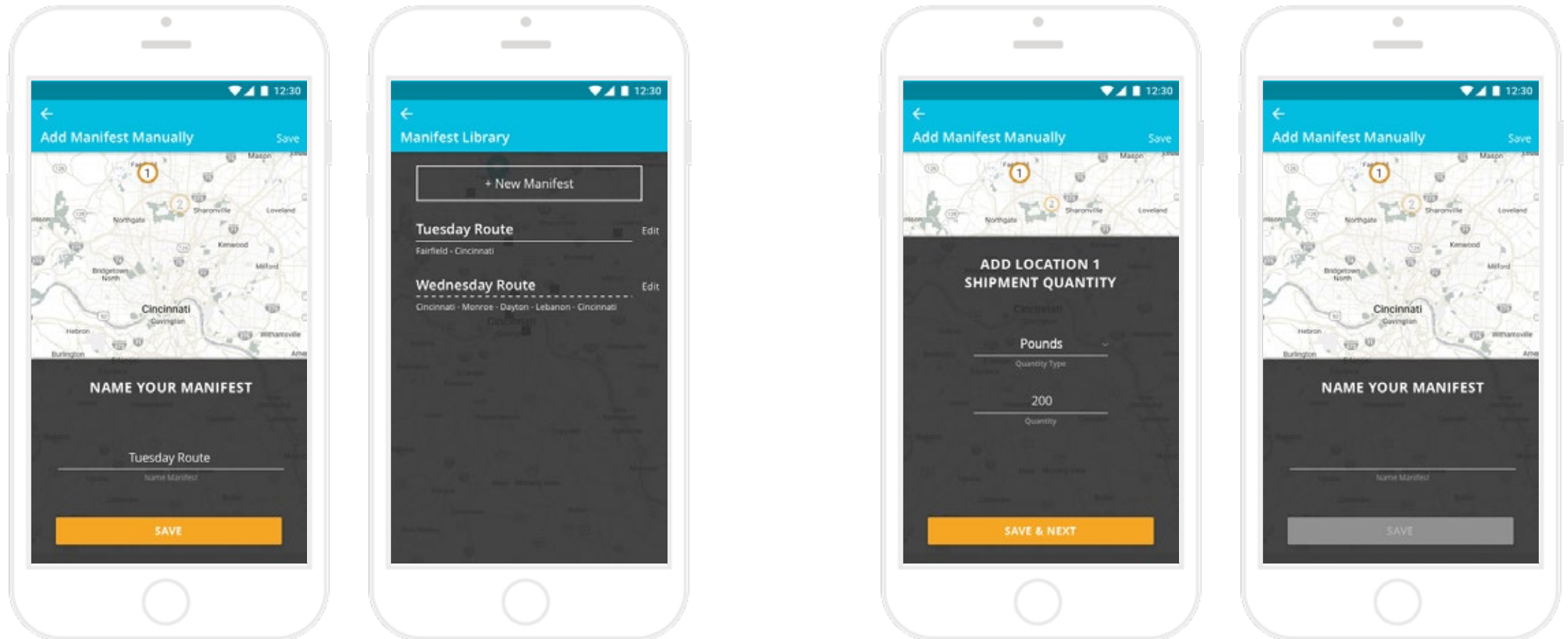
Import Manually Continued...



Import Manually Continued...



Import Manually Continued...



Import Manually Continued...

