



Hasa Reddy

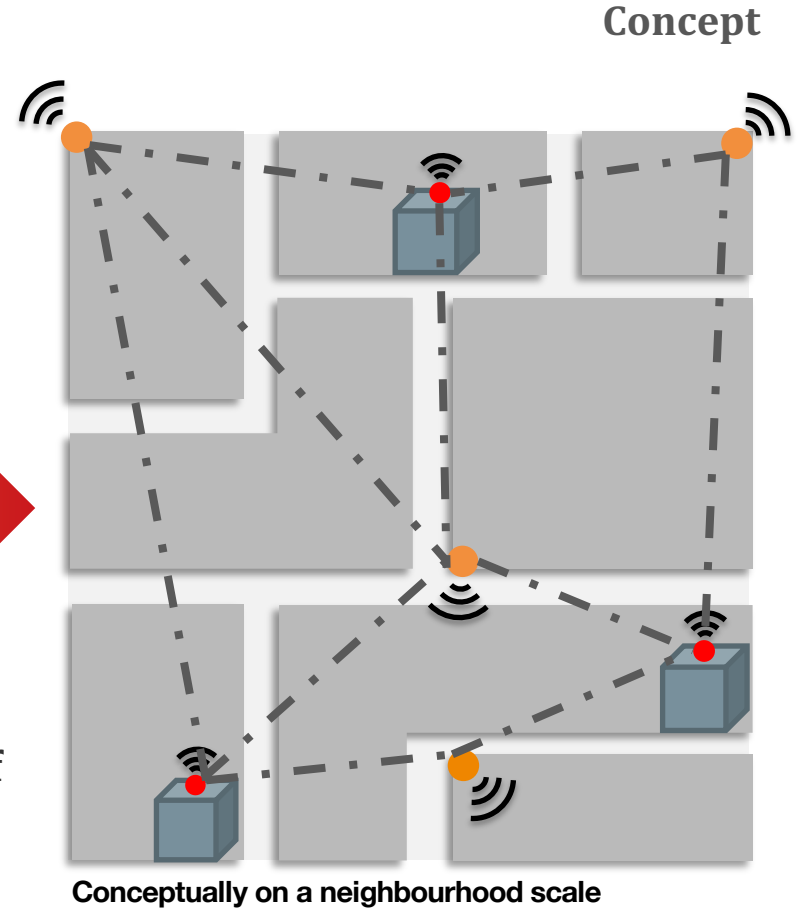
Proposal to tackle food insecurity along with proving supporting infrastructure to further digital inclusively in the City of Philadelphia.

Food insecurity in Philadelphia 21%
17% of trash sent to the landfill is wasted food

Food insecurity based on FAO



“Don’t let the digital divide become ‘the new face of inequality’: [UN](#)”



Users



ERIK

Age: 41yrs.

Education:
Highschool

Background
Homeless

Needs
Meals regularly
and govt programs
for the homeless



Suzan

Age: 69 yrs.

Education
School dropout

Background
Living alone

Needs:
Community
engagement



MAX

Age: 13 yrs.

Education
8th Grade

Background
Household with no
consistent income

Needs
Wholesome meals



Miriam

Age: 39 yrs.

Education
Grad

Background
Income < \$20000
and single mother

Needs
Internet to look up
govt. programs &
meals for 2



Trey

Age: 23 yrs.

Education
Attending community
college

Background
Doing part time jobs
and studying

Needs
Access to internet to
apply to jobs

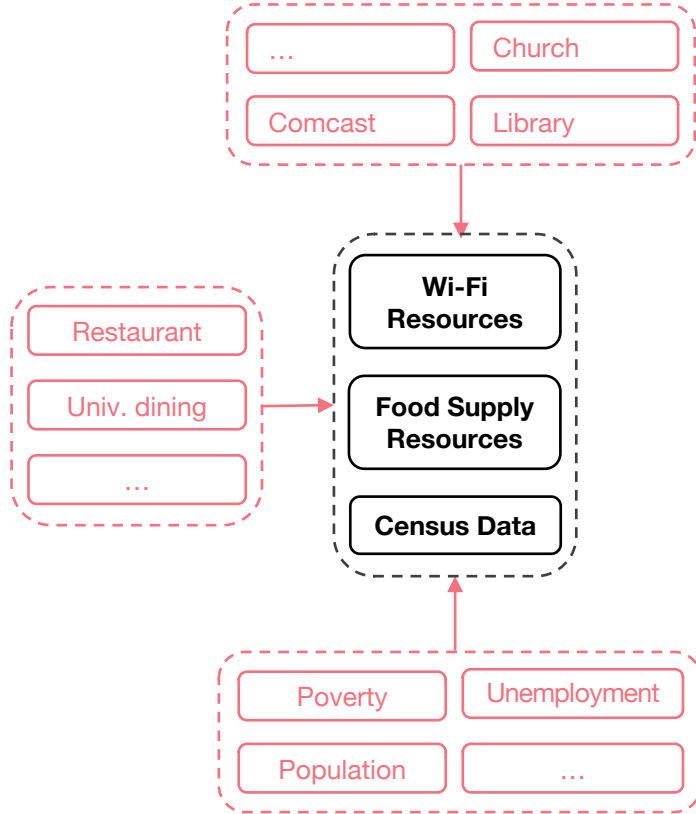


Household of 4

Mother, Father
And 2 kids in K-12

Background:
Household income <
\$30000, one of the
parent lost job
recently

Needs:
Regularly meals
Internet to apply
for jobs



Step 1. Data Collection



Wi-Fi Resources

Where needs more Internet coverage



Food Supply Resources

Where and When to collect the food



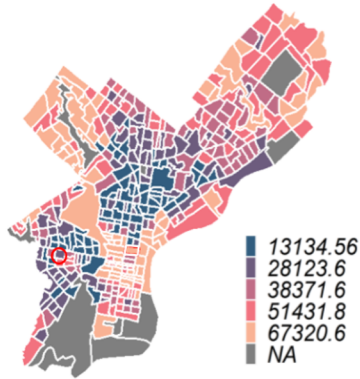
Census

Where to send

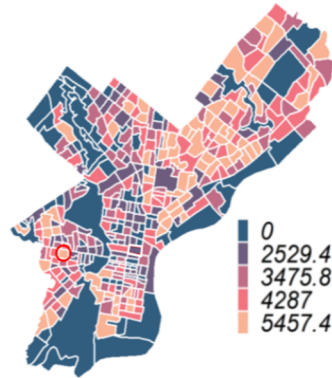
Site location

Income, population and poverty map

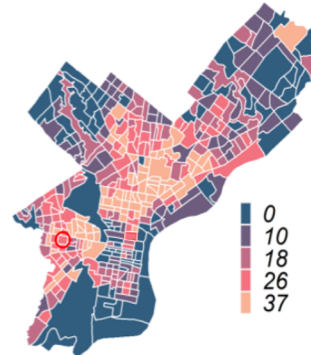
Detailed information of test bed site.



Map of median household income



Map of total population



Map of percentage of poverty

Income

\$17,039

Per capita income

about three-fifths of the amount in Philadelphia: \$27,924

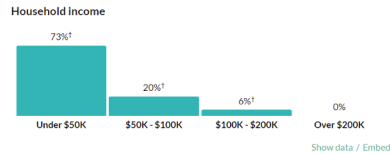
about three-fifths of the amount in Philadelphia County: \$27,924

\$33,429

Median household income

about three-quarters of the amount in Philadelphia: \$45,927

about three-quarters of the amount in Philadelphia County: \$45,927



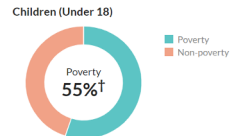
Poverty

35.6%

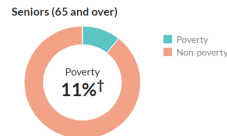
Persons below poverty line

about 1.5 times the rate in Philadelphia: 24.3%

about 1.5 times the rate in Philadelphia County: 24.3%



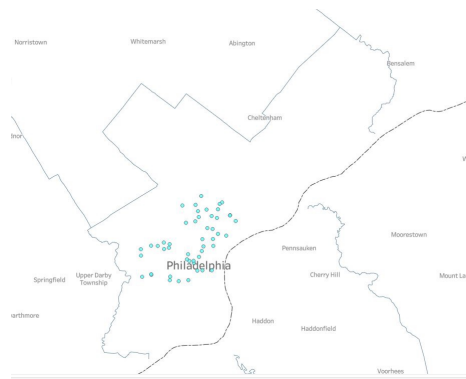
Show data / Embed



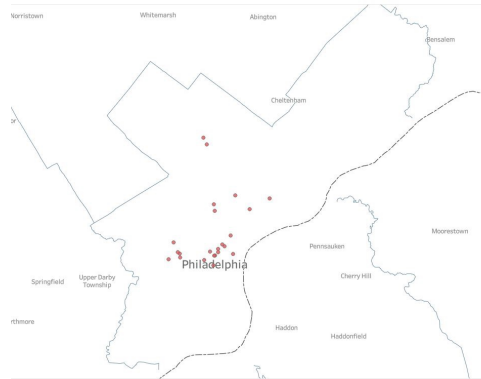
Show data / Embed

Testbed: **Census tract 85**, bounded by Market Street, South 50th Street, Pine Street and South 55th Street.

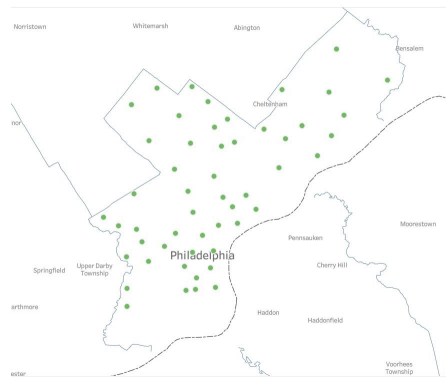
Data Presentation



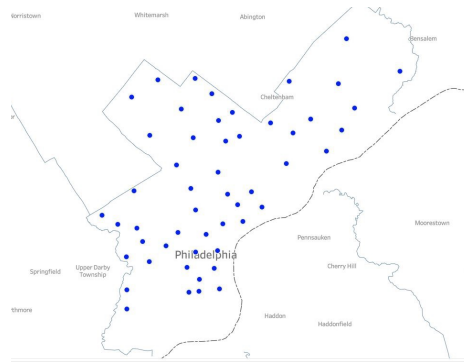
PhilAbundance Locations



General Meal Locations

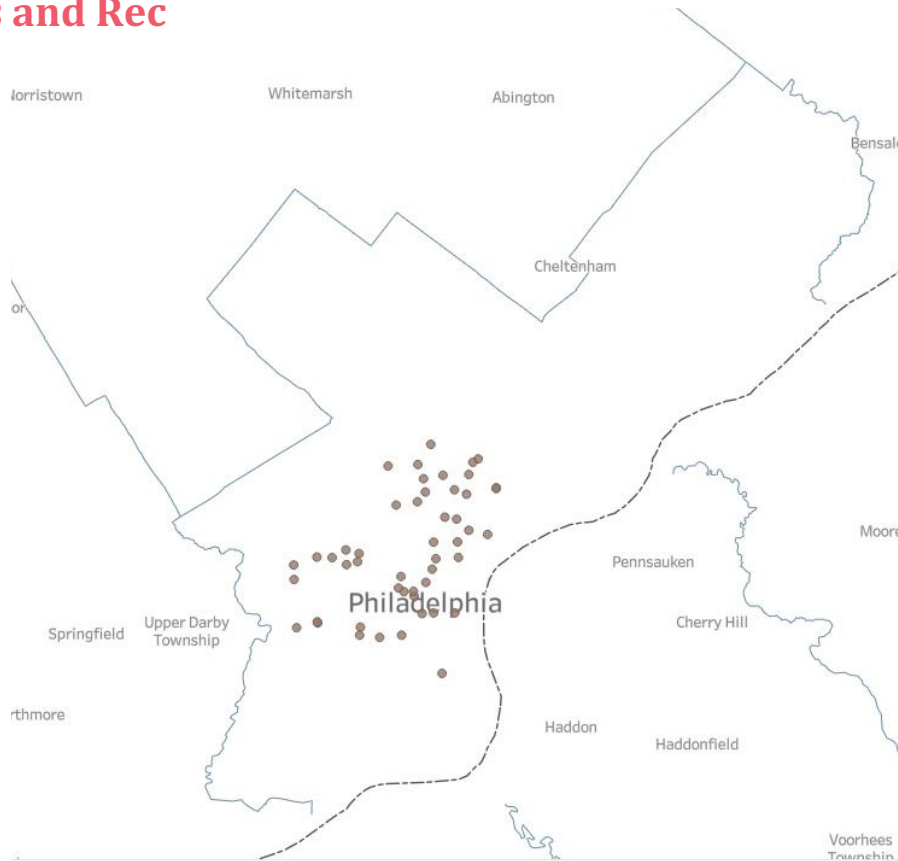


WiFi Locations



Parking Locations

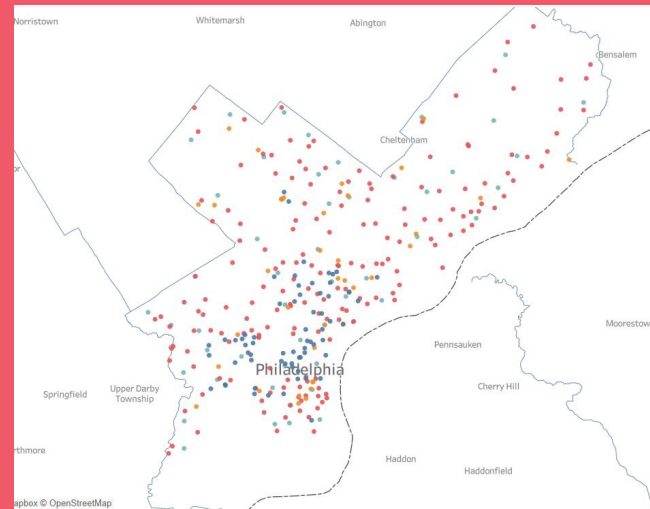
Parks and Rec



```
for i in range(len(df_parknrec)):
    par_lat, par_lon = df_parknrec.iloc[i, -4:-2].values
    for j in range(len(df_lib_loc)):
        lib_lat, lib_lon = df_lib_loc.iloc[j, -2:].values
        dis = haversine((par_lat, par_lon), (lib_lat, lib_lon), unit=Unit.METERS)
        if dis <= 100:
            df_parknrec.iloc[i, -1] += 1
            df_parknrec.iloc[i, -1] += (df_lib_loc.iloc[j, 0] + '_')
```

Type

- Meal Site
- Parking Lot
- Parks and Rec
- Wifi Location



Next steps and hurdles?

1. How to overlay the census data with flex network data set?
2. Trying to figure out how to locate the optimal locations in tracts that need these locations?