

The background of the slide is a deep blue gradient. It features several microscopic images. On the left side, there is a large, detailed cluster of cells, possibly epithelial cells, showing their irregular shapes and internal structures. Scattered across the right and bottom portions of the slide are several spherical virus particles, each covered in small, protruding spikes, characteristic of coronaviruses. The overall aesthetic is scientific and clinical.

# Getting Outdoors with the Family

During the time of Covid-19 Restrictions

# INTRODUCTION



- Families in Washington have been under Stay-Home, Stay-Well order for over 3 months now.
- As of last week, Gov Inslee has re-opened park areas, with social-distancing.
- Many families, particularly those with kids are looking to take advantage of the sunny weather to get outside.
- Restrictions include a ban on non-essential travel
- Neighborhood parks provide a way to get outside, without travelling too far from home.
- Ideal parks should have a range of activities for the family and be close to restaurants for getting take-out.
- This project will provide an analysis of Seattle parks based on their available amenities and nearby restaurants. The nearby restaurants will further be profiled based on the number and types of restaurants present in an area around the parks.

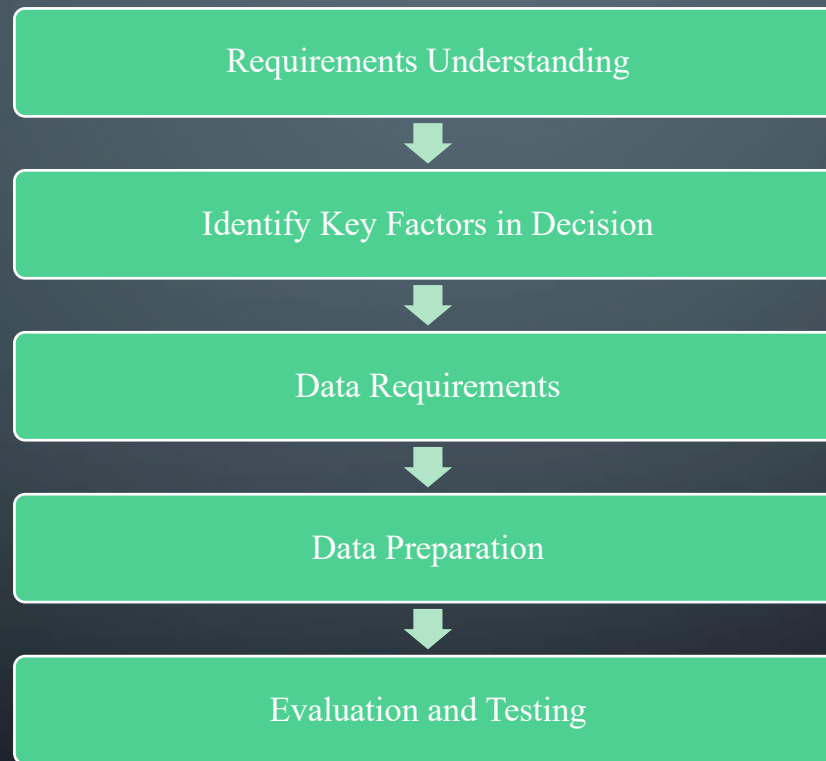
# OBJECTIVES

- To decide the ideal parks, we must identify the key factors which drive the attractiveness for families. Factors include:
  1. Variety of available activities at the park
  2. Number of activities at the park
  3. Types of nearby restaurants
  4. Proximity to nearby restaurants
  5. Variety of nearby restaurants

# DATA DESCRIPTION

- Data.gov: Listing of all park features by park within Seattle City Limits
  - Park Name, Latitude, Longitude, Feature\_Description, and Address
- Foursquare: Nearby venue search
  - Restaurant Name, Address, Latitude, Longitude, Category
- Calculated:
  - Distances between points using PyProj

# METHODOLOGY



# RESULTS: VARIETY OF ACTIVITIES IN THE PARKS

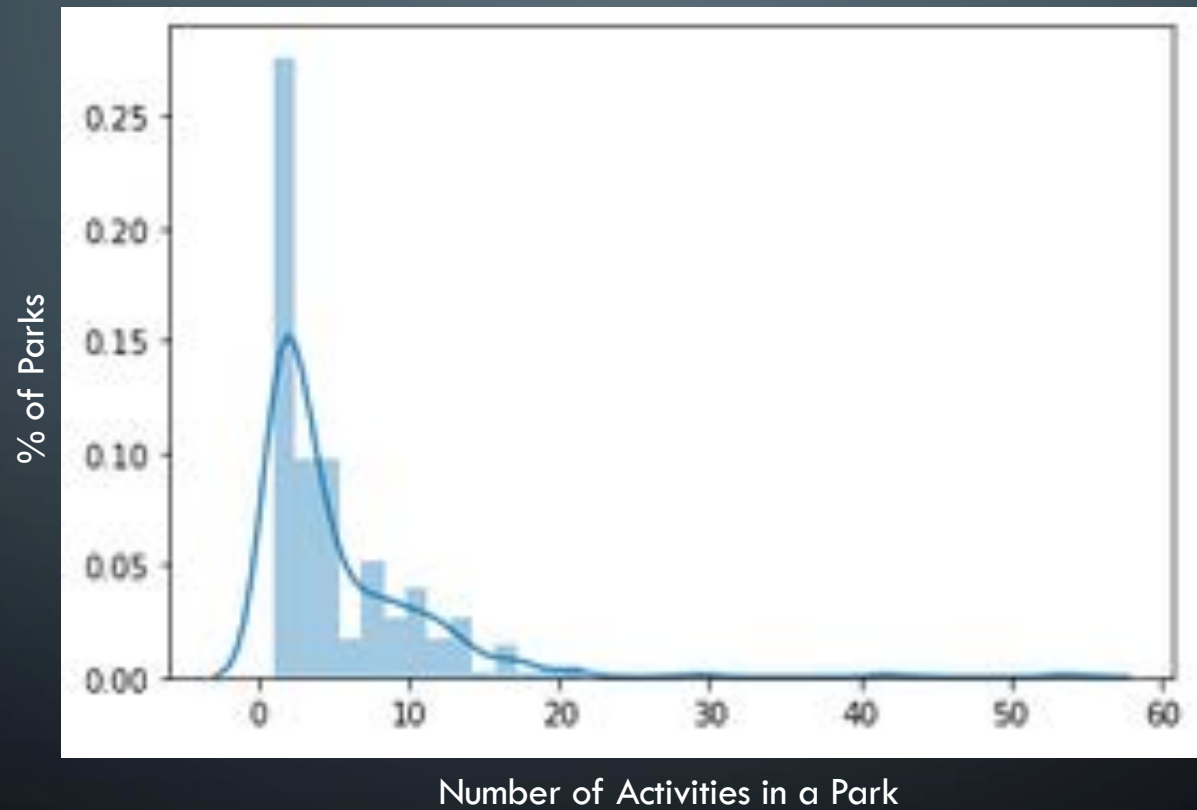
- Play Area
- View
- Boat Launch (Hand Carry)
- Boat Launch (Motorized)
- Waterfront
- Paths
- Fire Pit
- Paths (ADA Compliant)
- Picnic Sites
- Rental Facility
- Restrooms
- Restrooms (ADA Compliant)
- Fishing
- Tennis Court (Outdoor)
- Green Space
- Woods
- Adult Fitness Equipment
- Play Area (ADA Compliant)
- Pesticide Free
- Skatepark
- Wading Pool or Water Feature
- Historic Landmark

- P-Patch Community Garden
- Weddings and Ceremonies
- Dog Off Leash Area
- Community Building
- Garden
- Bike Trail
- Baseball/Softball
- Soccer
- Tennis Lights
- Environmental Learning Center
- Hiking Trails
- Creek
- Picnic Sites (ADA Compliant)
- Basketball (Half)
- Basketball (Full)
- Tennis Backboard (Outdoor)
- Track
- Community Center
- Decorative Fountain
- Golf
- Guarded Beach
- Pool (Indoor)

- Cricket
- Lawn Bowling
- Bike Polo
- Football
- Skatespot
- Model Boat Pond
- Boat Moorage
- Horseshoe Pits
- Pool (Outdoor)
- Disc Golf
- Tidelands
- Marination Ma Kai
- Scuba Diving
- NO Beach Access
- Lacrosse
- Rugby
- Ultimate
- BMX Dirt Jumps
- T-Ball
- Flag Football
- Zipline
- Pickleball Court

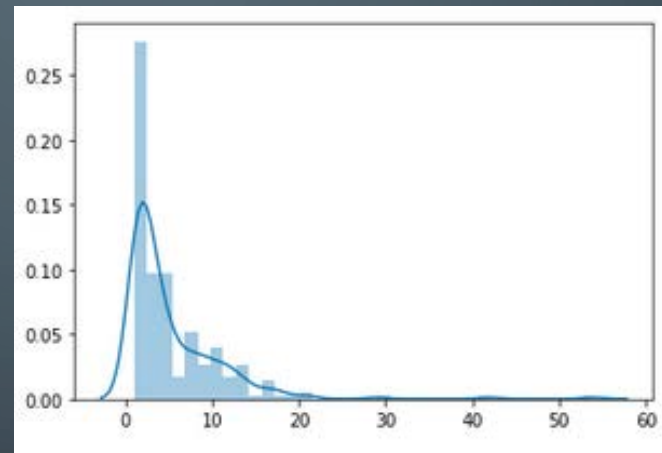


## RESULTS: NUMBER OF ACTIVITIES PER PARK



# RESULTS: ONLY $14/288$ PARKS HAVE $>15$ AMENITIES

Name	lng	lat
Carkeek Park	-122.379763	47.712194
Discovery Park	-122.415282	47.660830
Jefferson Park	-122.311441	47.568067
Golden Gardens Park	-122.403454	47.686852
Green Lake Park	-122.330394	47.678938
Judkins Park and Playfield	-122.303951	47.592425
Lincoln Park	-122.396012	47.531176
Mt. Baker Park	-122.288481	47.580957
Seward Park	-122.250639	47.549230
Warren G. Magnuson Park	-122.255084	47.680304
Woodland Park	-122.344218	47.668906
Meadowbrook Playfield	-122.293493	47.705771
Magnolia Playfield	-122.399472	47.643746
Hiawatha Playfield	-122.384965	47.578272





# RESULTS: TYPES OF NEARBY RESTAURANTS

The restaurant types near parks include:

- Bakery
- Italian Restaurant
- Taco Place
- Bistro
- Sandwich Place
- Restaurant
- Mexican Restaurant
- Café
- Pizza Place
- Donut Shop
- Seafood Restaurant
- Cajun / Creole Restaurant
- Breakfast Spot
- German Restaurant
- Vietnamese Restaurant
- American Restaurant
- Chinese Restaurant
- Food Truck
- French Restaurant
- Greek Restaurant
- Burger Joint
- Korean Restaurant
- Noodle House
- Thai Restaurant
- Japanese Restaurant
- Salad Place
- New American Restaurant
- Irish Pub
- Sushi Restaurant
- Fondue Restaurant
- Mediterranean Restaurant
- Turkish Restaurant

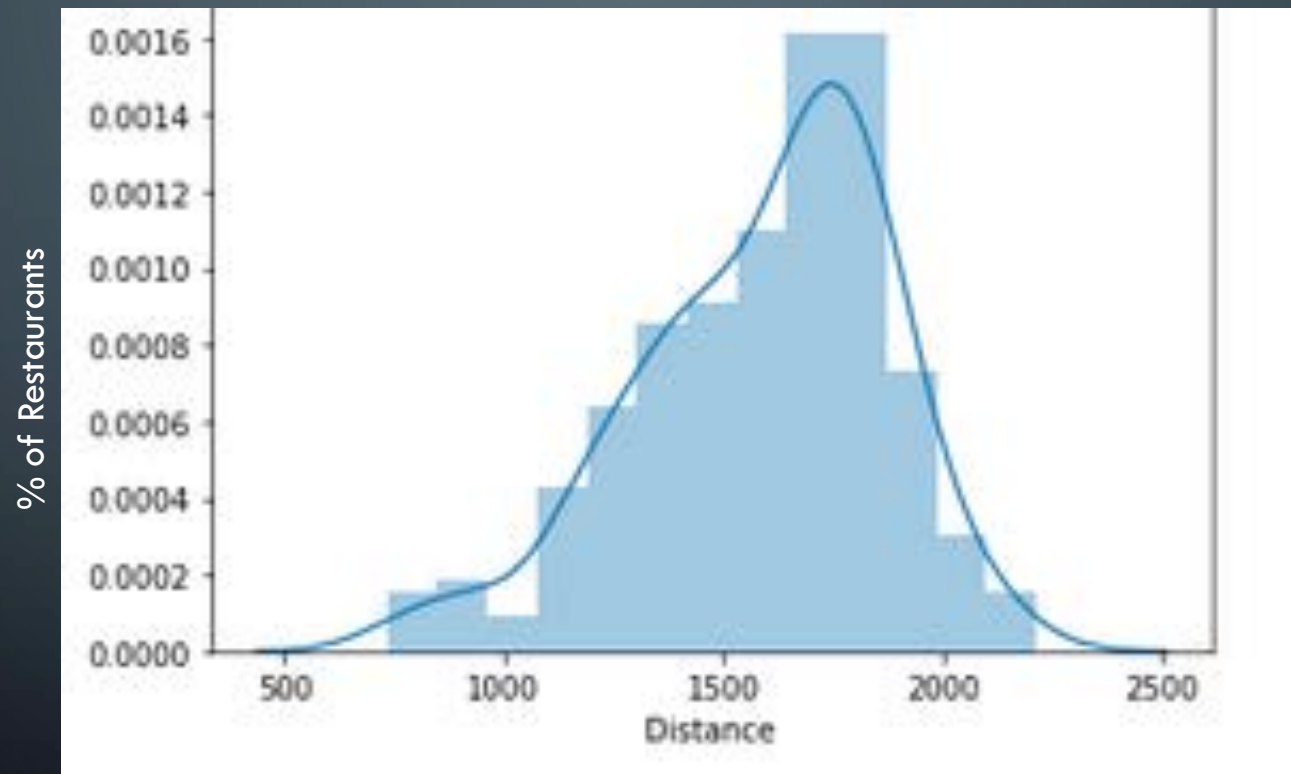
- Spanish Restaurant
- Taiwanese Restaurant
- Diner
- Dumpling Restaurant
- Vegetarian / Vegan Restaurant
- BBQ Joint
- Asian Restaurant
- Cuban Restaurant
- Caribbean Restaurant
- Ethiopian Restaurant
- Hawaiian Restaurant
- Szechuan Restaurant
- Food Court
- Hotpot Restaurant
- Poke Place
- Deli / Bodega
- South American Restaurant
- Bagel Shop
- Fish & Chips Shop
- Creperie
- Wings Joint
- Hot Dog Joint
- Dim Sum Restaurant
- Tapas Restaurant
- Latin American Restaurant
- Gastropub
- Scandinavian Restaurant
- Indian Restaurant
- Fried Chicken Joint
- Eastern European Restaurant
- Food
- Australian Restaurant
- Middle Eastern Restaurant
- Falafel Restaurant

- Fast Food Restaurant
- Steakhouse
- Ramen Restaurant
- Udon Restaurant
- Southern / Soul Food Restaurant
- African Restaurant
- Soup Place
- Snack Place
- Burrito Place
- Tex-Mex Restaurant
- Moroccan Restaurant
- Food Stand
- Malay Restaurant
- Lebanese Restaurant
- Argentinian Restaurant
- Filipino Restaurant
- ~~Doner~~ Restaurant
- Indonesian Restaurant
- Polish Restaurant
- Comfort Food Restaurant
- Brazilian Restaurant
- Gluten-free Restaurant
- Kebab Restaurant
- Cafeteria
- Peruvian Restaurant
- Russian Restaurant
- Jewish Restaurant
- Peking Duck Restaurant
- North Indian Restaurant
- Pet Café
- Sri Lankan Restaurant

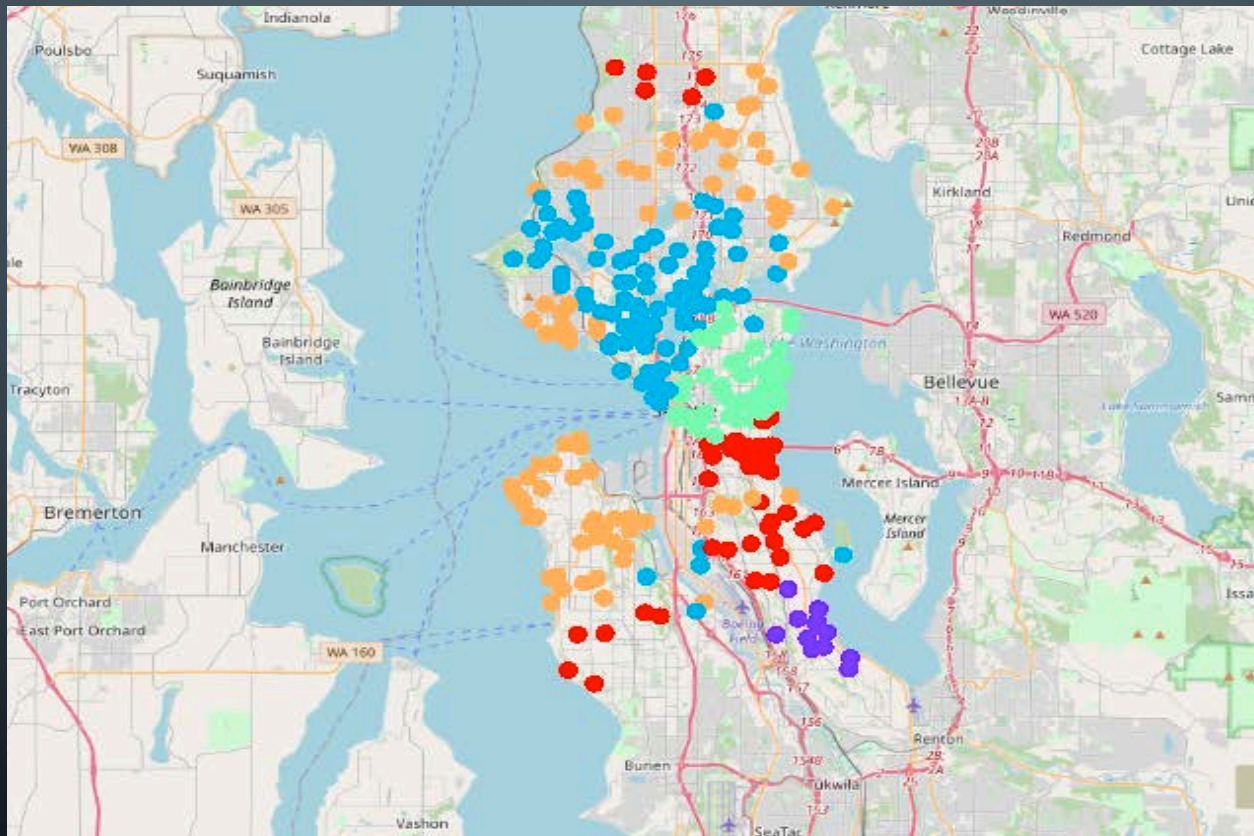
# RESULTS: VARIETY OF NEARBY RESTAURANTS

	Park	Cluster Labels	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue
872	Atlantic City Boat Ramp	1	Mexican Restaurant	Vietnamese Restaurant	Café	Fast Food Restaurant	Food
1320	Beer Sheva Park	1	Mexican Restaurant	Vietnamese Restaurant	Fast Food Restaurant	Café	Food
2619	Chinook Beach Park	1	Mexican Restaurant	Food	Fast Food Restaurant	Café	Vietnamese Restaurant
8103	Kubota Garden	1	Fast Food Restaurant	Mexican Restaurant	Café	Bakery	Restaurant
8582	Lakeridge Park	1	Vietnamese Restaurant	Fast Food Restaurant	Mexican Restaurant	Sandwich Place	Café
8606	Lakeridge Playfield	1	Vietnamese Restaurant	Fast Food Restaurant	Food	Sandwich Place	Mexican Restaurant
13316	Pritchard Island Beach	1	Mexican Restaurant	Vietnamese Restaurant	Café	Fast Food Restaurant	Food
13663	Sturtevant Ravine	1	Vietnamese Restaurant	Mexican Restaurant	Bakery	Café	Fast Food Restaurant
18944	Benefit Playground	1	Mexican Restaurant	Café	Vietnamese Restaurant	Bakery	Fast Food Restaurant
20443	Hutchinson Playground	1	Mexican Restaurant	Ethiopian Restaurant	Fast Food Restaurant	Food	Sandwich Place

## RESULTS: PROXIMITY TO NEARBY RESTAURANTS



# VISUALIZE: PARK CLUSTERING BY TYPE OF RESTAURANT



# DISCUSSION: TWO SUBTYPES OF RECOMMENDATIONS

For families for whom proximity to food is key

```
-----Cal Anderson Park and Bobby Morris Playfield-----
              venue  freq
0              Café   7.0
1              Bakery  7.0
2      Italian Restaurant  6.0
3      Ramen Restaurant   5.0
4      American Restaurant 4.0
```

```
-----Regrade Park-----
              venue  freq
0      Breakfast Spot   8.0
1              Bakery   6.0
2      Seafood Restaurant 6.0
3      Italian Restaurant 6.0
4              Pizza Place 5.0
```

```
-----Westlake Park-----
              venue  freq
0      Breakfast Spot   7.0
1              Bakery   6.0
2      Italian Restaurant 5.0
3      Sandwich Place    5.0
4      Seafood Restaurant 5.0
```

*Parks within 1/2 mile of their top 5 most common nearby restaurants*

For families for whom variety of park activities is key

```
-----Warren G. Magnuson Park-----
              venue  freq
0      American Restaurant 25.0
1      Food Truck         25.0
2              Café        12.0
3      Pizza Place        12.0
4      Greek Restaurant    12.0
```

```
-----Magnolia Playfield-----
              venue  freq
0      Sandwich Place     13.0
1      Pizza Place        13.0
2      Japanese Restaurant 9.0
3              Café        6.0
4      Asian Restaurant    4.0
```

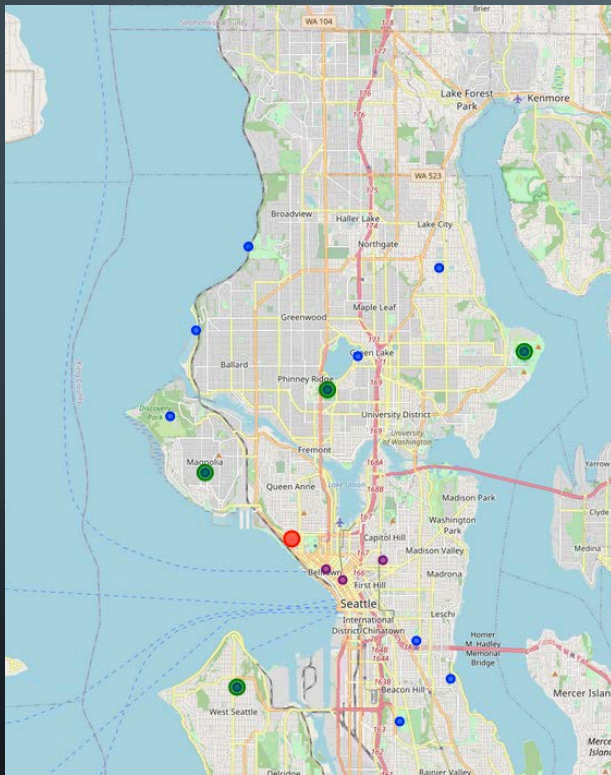
```
-----Woodland Park-----
              venue  freq
0      Pizza Place        11.0
1      Burger Joint        5.0
2      Japanese Restaurant 5.0
3              Café        5.0
4      Indian Restaurant   4.0
```

```
-----Hiawatha Playfield-----
              venue  freq
0      Pizza Place        13.0
1      Mexican Restaurant  9.0
2      Italian Restaurant  5.0
3      Asian Restaurant    5.0
4      American Restaurant 5.0
```

*Parks with more than 15 amenities within 1 mile of their 5 most common nearby restaurants*



# VISUALIZATION: RECOMMENDATION LOCATIONS



- For Subset 1: Proximity matters:
  - Small purple dots represent the parks within  $\frac{1}{2}$  mile of restaurants.
- For Subset 1: Activities matter:
  - Small blue dots correspond to the 14 parks with greater than 15 amenities each.
  - Large green dots correspond to the subset of those parks which also are within 1 mile of restaurants.

# CONCLUSION

- To allow families to maintain their sanity in the current chronic stress of uncertainty from Covid-19 movement restrictions, they must find ways to get outdoors.
- The purpose of this project was to identify park locations around the Queen Anne neighborhood in order to aid a group of families in narrowing down the search for something to do to get outside, despite current restrictions.
- Technology can be used to find parks from the comfort of their homes which meet their specific criteria, before they step out the door.
- This doesn't imply these are the only outdoor options, nor does it take into account the relative walkability indices of the neighborhoods arounds the parks.
- That's work for the next project....





# THANKS!



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