



# **facebook Data Challenge 2019**

*Disrupting San Francisco Through the power of Data*

# Team 4 Ducks

“Yellow, Ducks therefore we are 4 ducks” – *Sanobar Lala*, 2019



**Zhangyi Fan**  
*University of  
Pennsylvania*



**Sanobar Lala**  
*Drexel University*



**Kailai Xu**  
*Mentor*

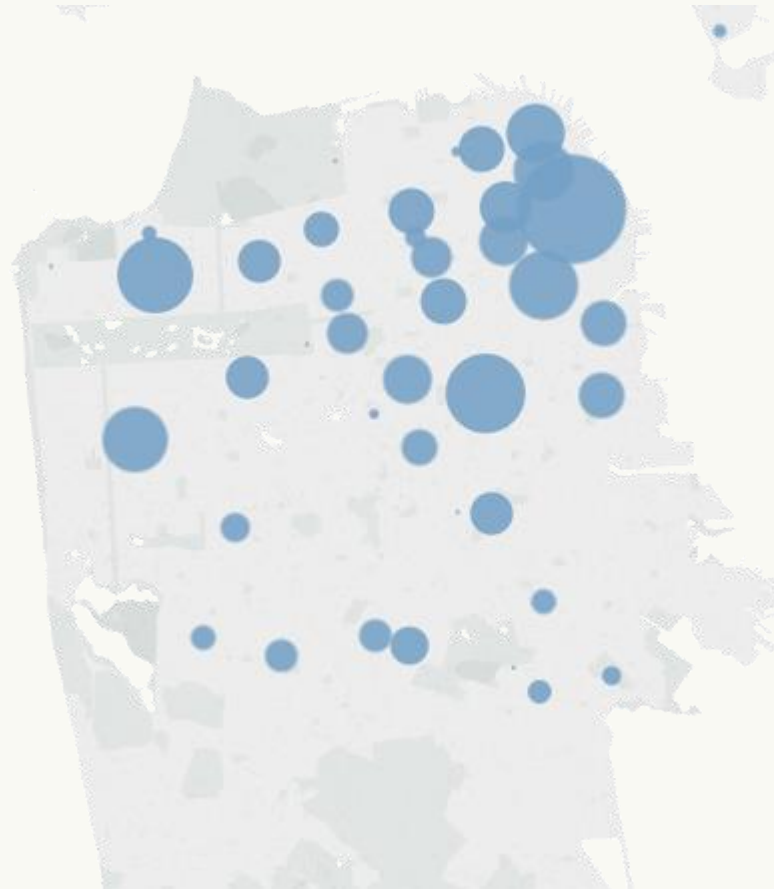


**Iftiar Rana**  
*Stony Brook  
University*



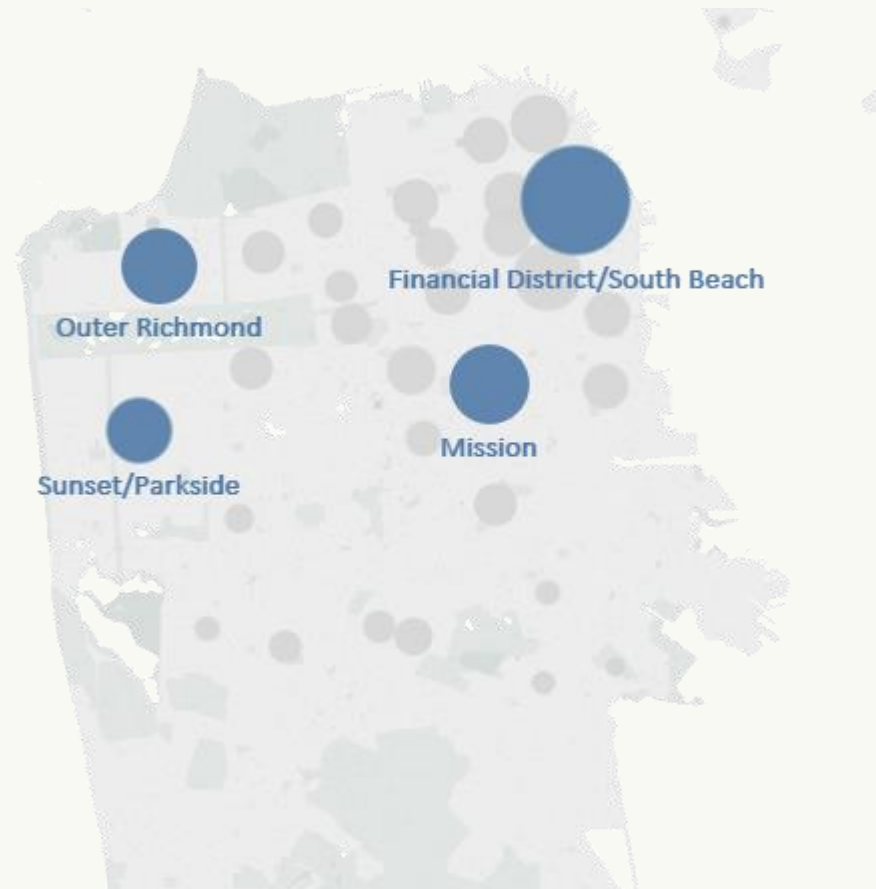
**Gloria Kitchens**  
*Tufts University*

# Overall Business Density in San Francisco

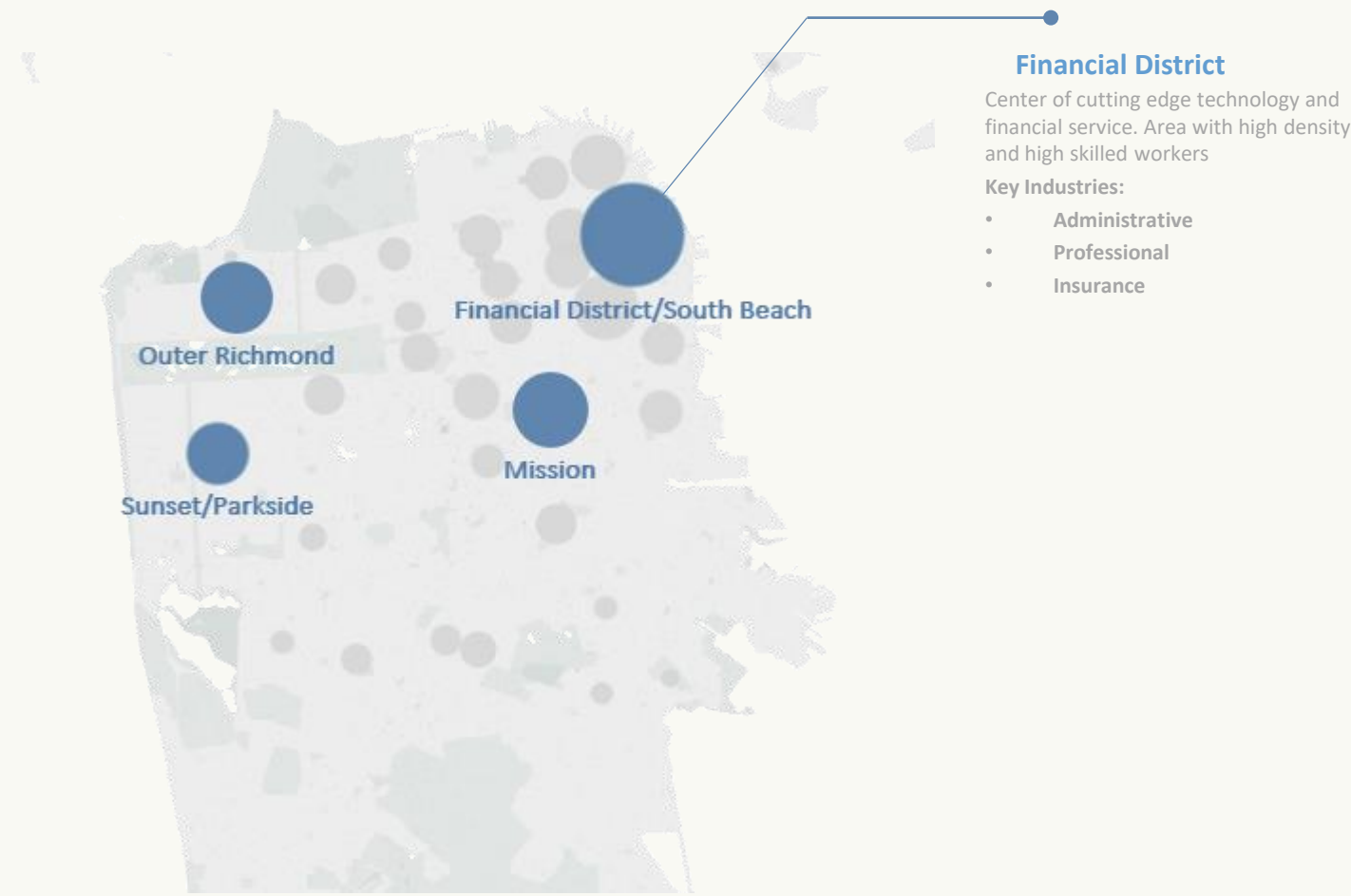


# 4 Main Area of Focus

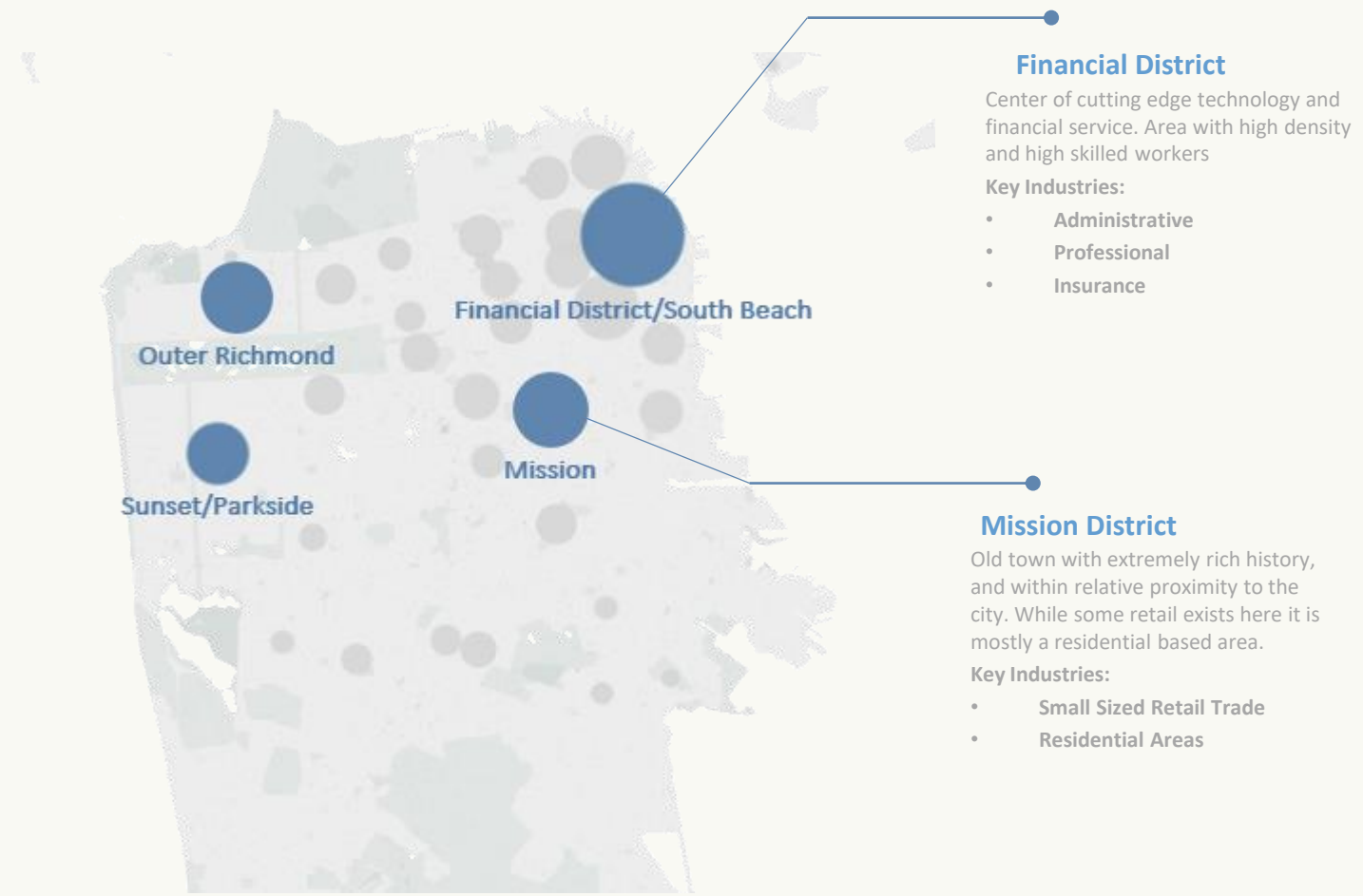
Selected 4 main district that encompasses the landscape of San Francisco



# Area of Focus 1

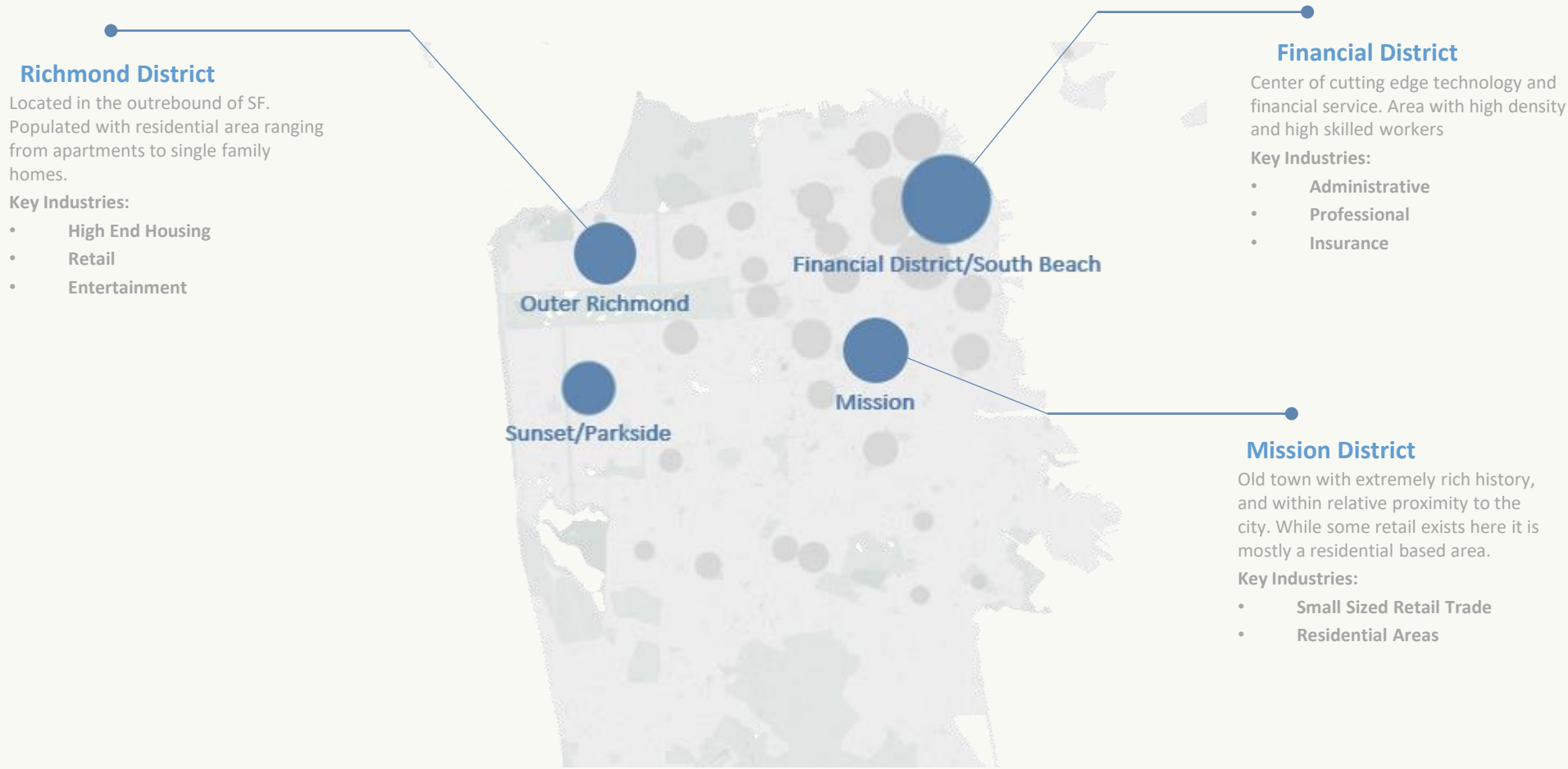


# Area of Focus 2

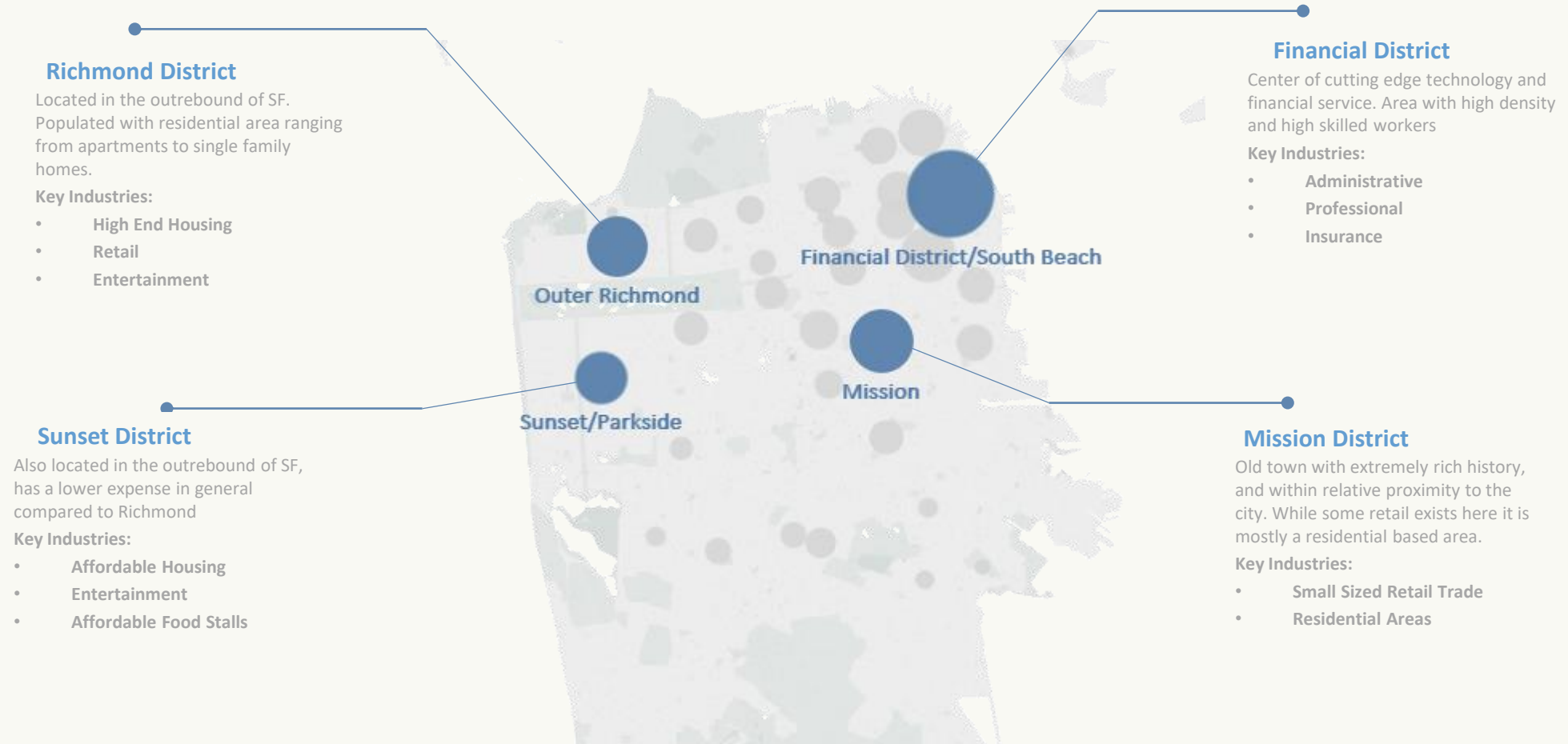




# Area of Focus 3



# Area of Focus 4





# Industries Are Largely Clustered Into Two Segments

These clusters tend to either be complementary or have similar needs in terms of its Physical Locations:

## Residential

*Accommodation*  
*Arts and Entertainment*  
*Large Real Estate*  
*Transportation*

### Key Traits:

Leisure centric home

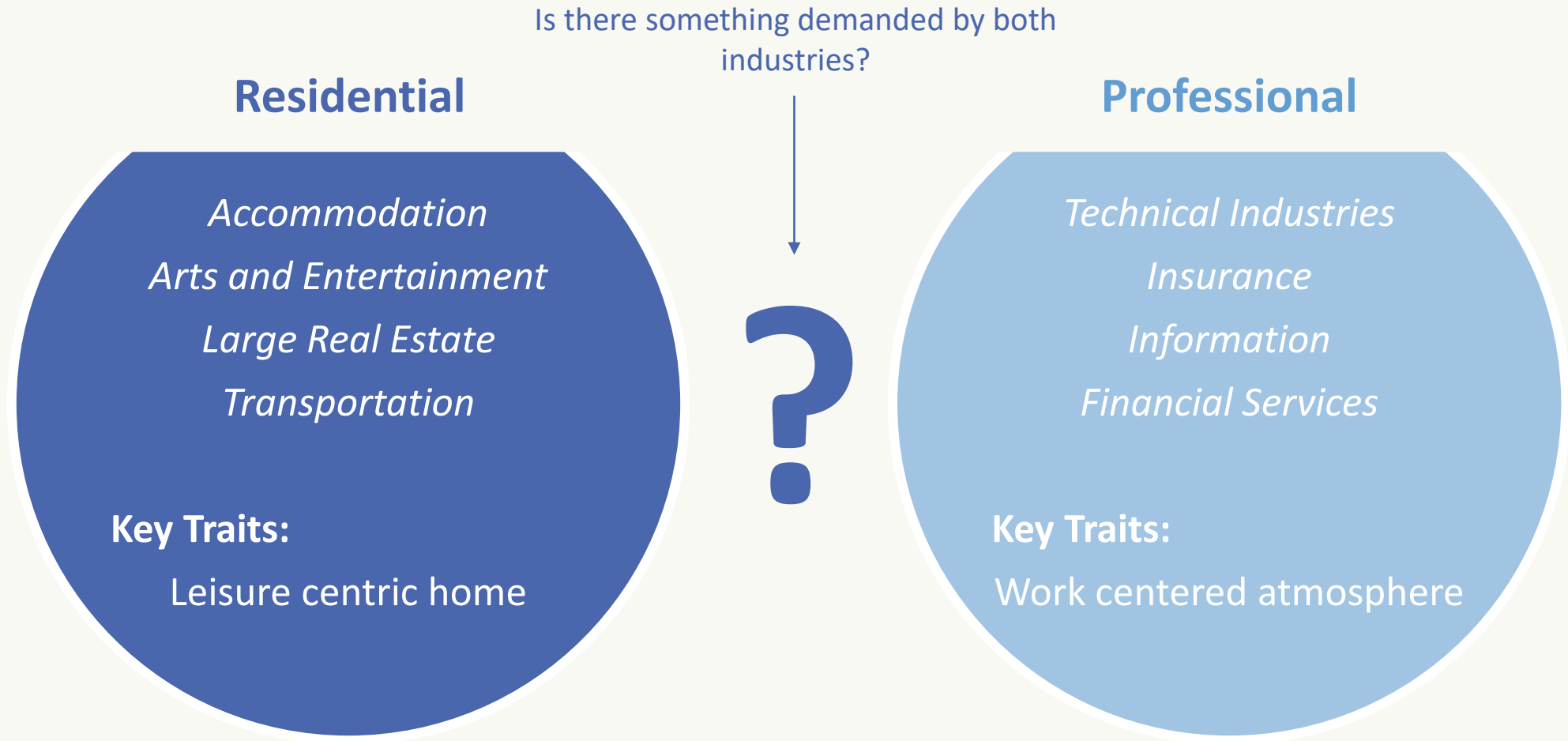
## Professional

*Technical Industries*  
*Insurance*  
*Information*  
*Financial Services*

### Key Traits:

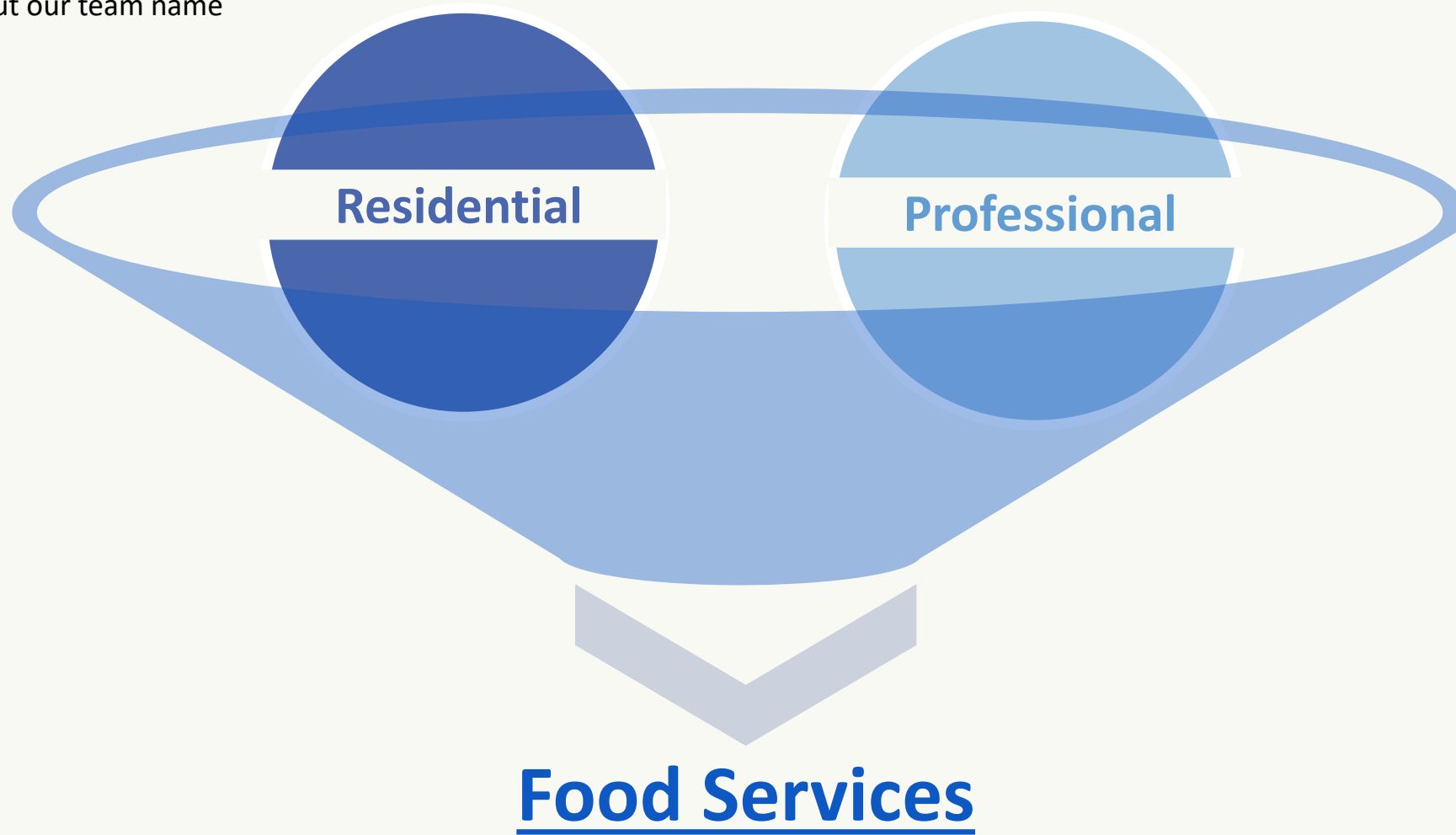
Work centered atmosphere

# Key Question For Our Recommendation

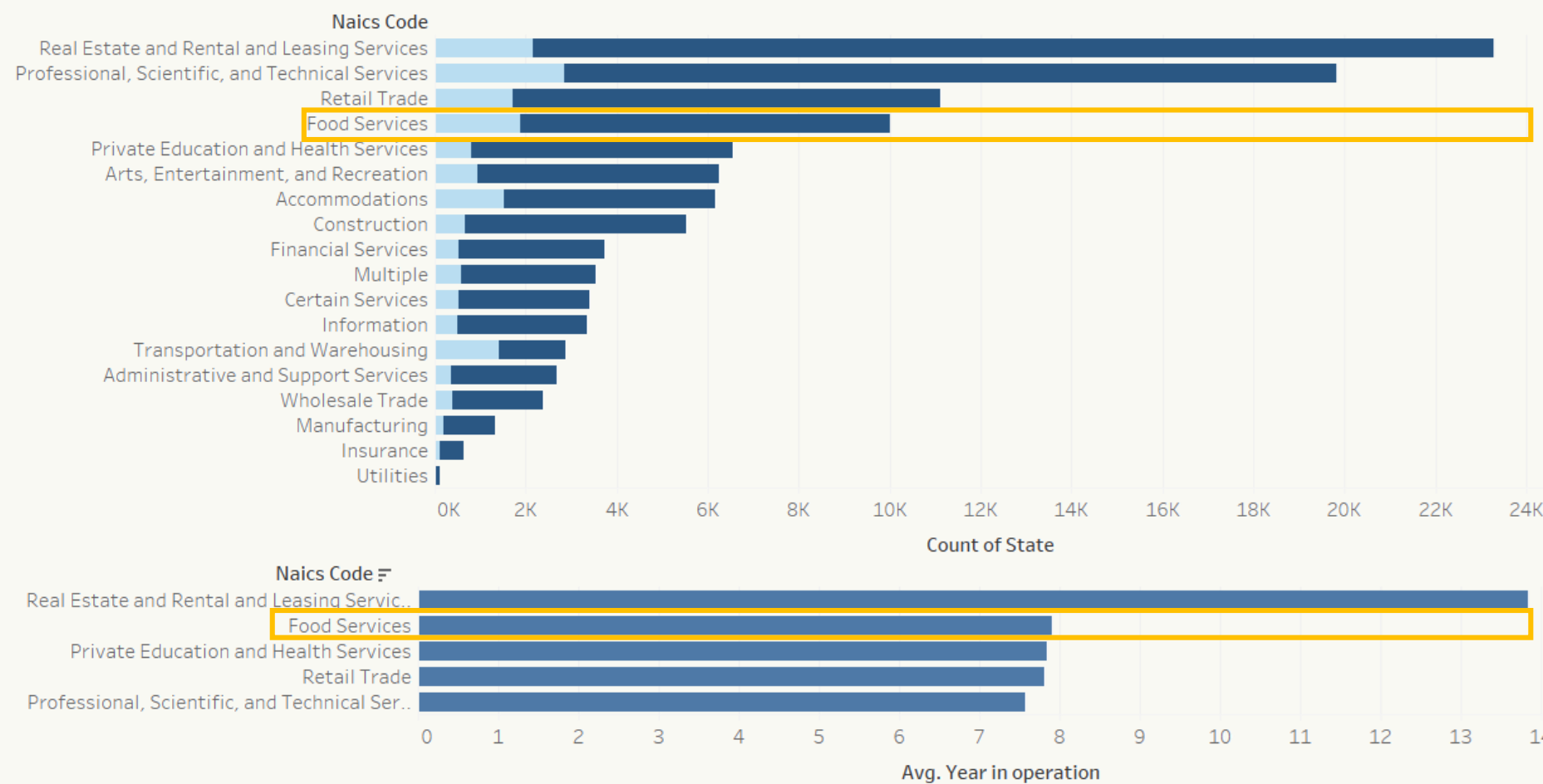


# Recommendation

Something about our team name



# Outstanding Baseline Size and Retention



## Industry Size:

*Rationale:* The company count serves as a proxy for the industry size, which is essentially to determine baseline demand

## Average Year in Operation:

*Rationale:* Taking the average year a firm stays in the industry helps approximate the churn rate of the industry, furthermore, it can also help identify the barrier of entry for each industry based on its maturity

**Takeaway:** The food industry is quite strong in terms of its size and finds a great balance between possible opportunities and firm durability

# Ability to Dynamically Start and Scale

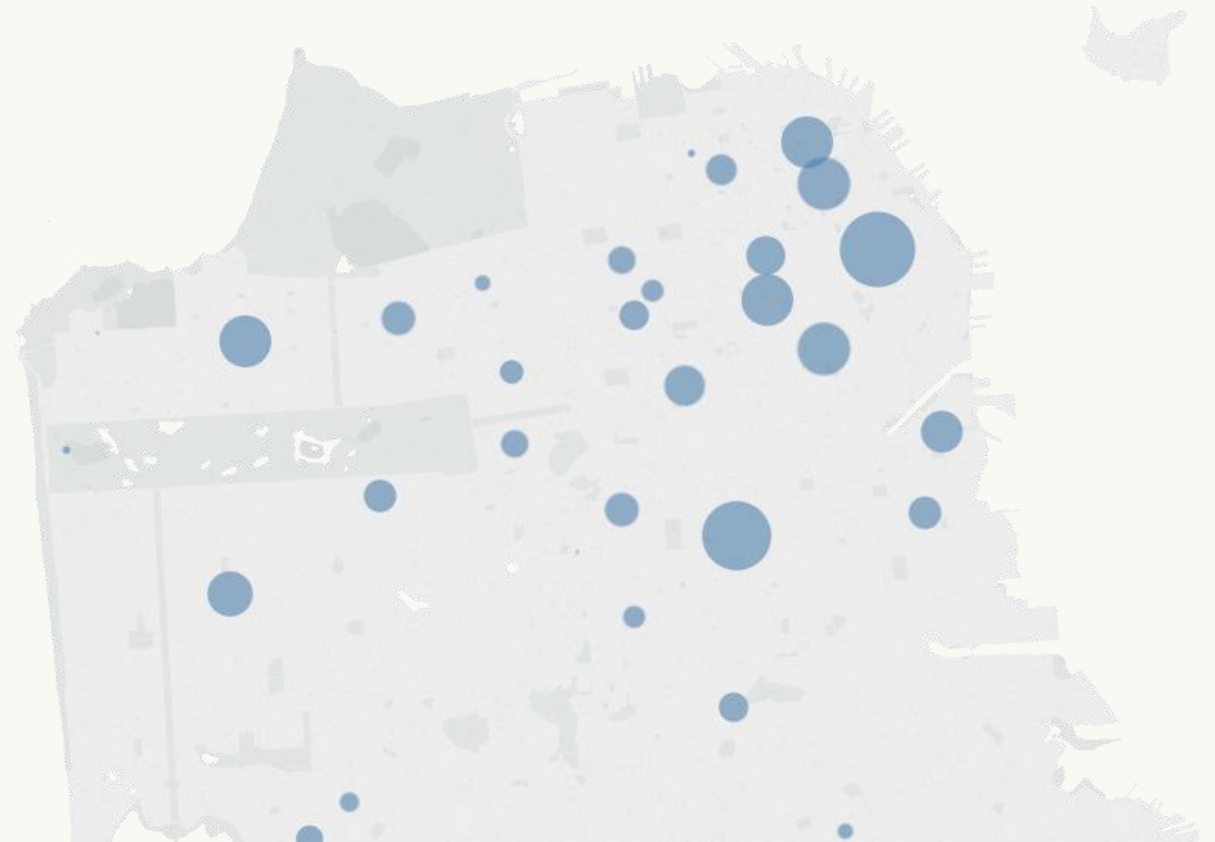
The food industry is adaptable to any location

## Analysis

**Spread:** The spread of the business is an indicator of the demand distribution for said industry. Food, expectedly, has a wide distribution and are not largely constrained by the segments we defined above

**Feasibility:** While some other industries can also be spread-out(Manufacturing or real-estate). The upfront cost to start those businesses alone is excruciatingly high. For food stalls however, it is widely applicable to a range of initial

**Takeaway: The food industry's characteristic enables us to start anywhere and expand with San Francisco at ease**

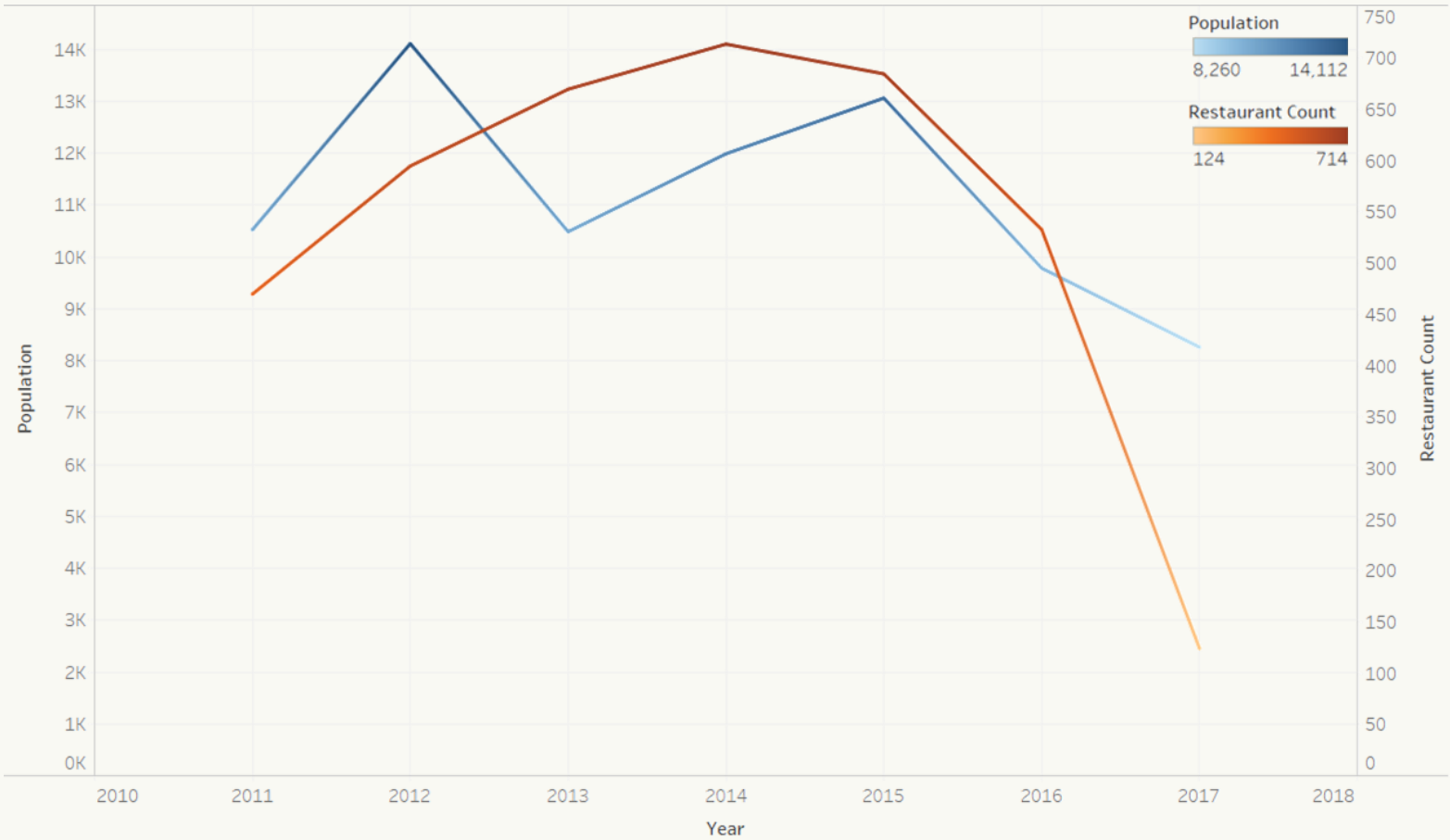


Food Store Distribution

# Excess Demand Ready to be Captured

Mapping out population change and store count changes clearly shows a un-captivated demand

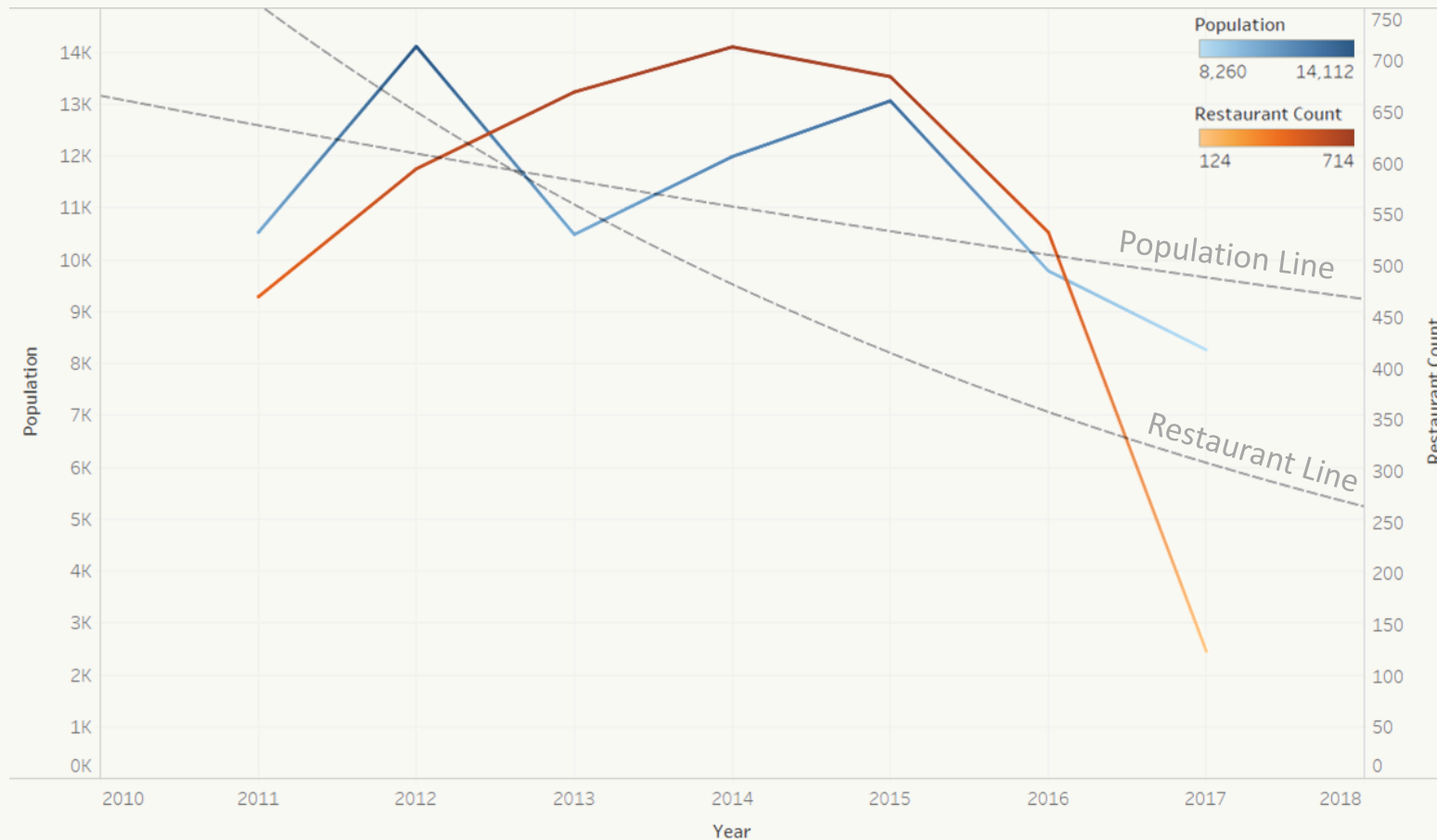
## Population Growth vs Restaurant Growth



# Excess Demand Ready to be Captured

Mapping out population change and store count changes clearly shows a un-captivated demand

## Population Growth vs Restaurant Growth



## Analysis

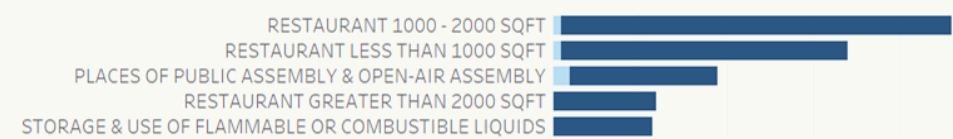
While the growth in both population and restaurant counts have been slowing down, they are both nonetheless growing. However, by proportion, growth of restaurant count is declining much faster than the growth in population. This disparity is projected to increase even further going forward.

**Takeaway: The demand for restaurants is likely going to exceed the current supply, providing us with a golden opportunity to enter the market**

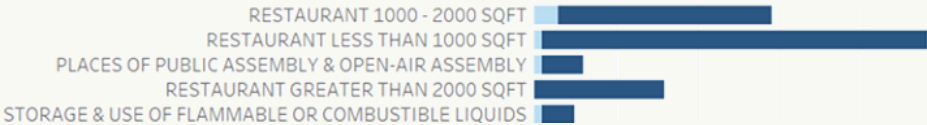


# Top Five Licenses In Main Area of Focus

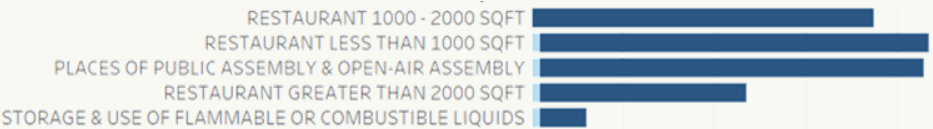
License Distribution in Mission.



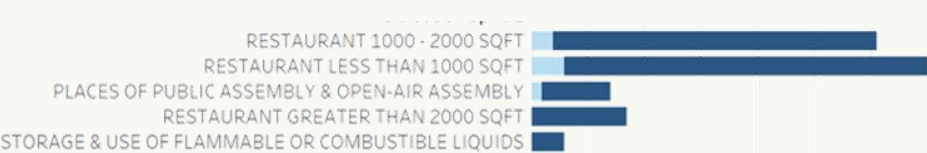
License Distribution in Sunset.



License Distribution in Financial District.



License Distribution in Outer Richmond.



# Recommendations

Case by Case Strategy:

**Status: Samantha Smith**



**Initial Capital**



**Recommendation:**

- **Location:** Financial District
- **Licenses:**
  - Restaurant less than a 1000 SQFT
  - Places of Public & Open-Air Assembly

**Status: Janice Sole**



**Initial Capital**



**Recommendation:**

- **Location:** Mission District
- **Licenses:**
  - Restaurant 1000-2000 SQFT

**Status: John Adams**



**Initial Capital**



**Recommendation:**

- **Location:** Outer Richmond or Sunset District
- **Licenses:**
  - Restaurant less than a 1000 SQFT

# Product Improvement: Facebook Pages

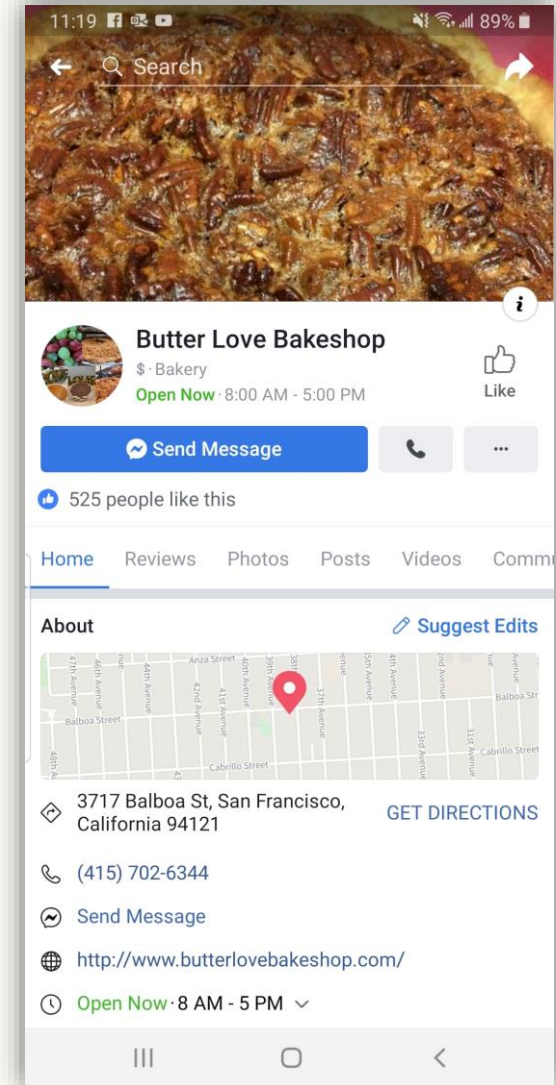
Actively Improving the accuracy of Facebook Page data for businesses

- Update a page if a business is closed based on Business end date field.

Business End  
Date:  
10/18/17



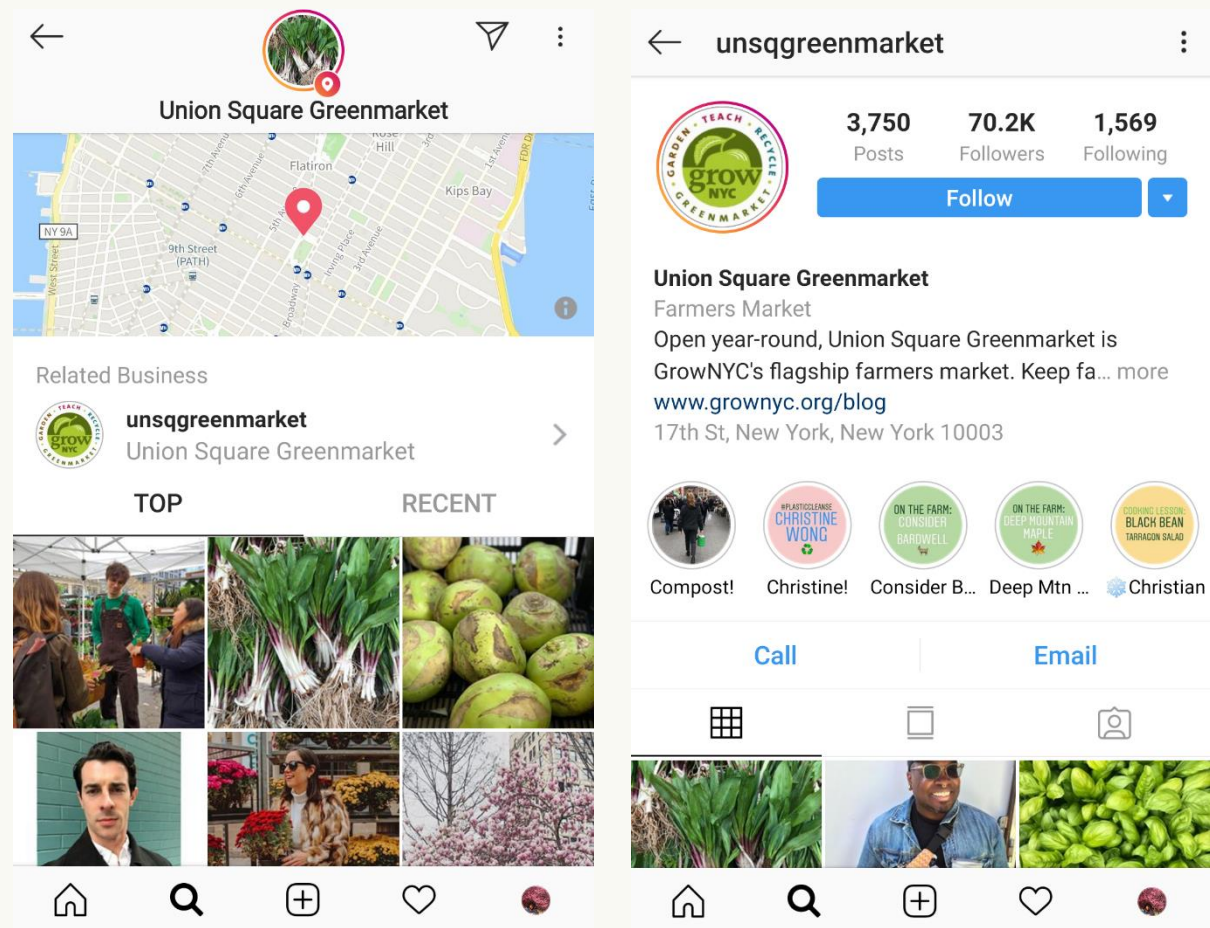
Business End  
Date:  
4/30/16



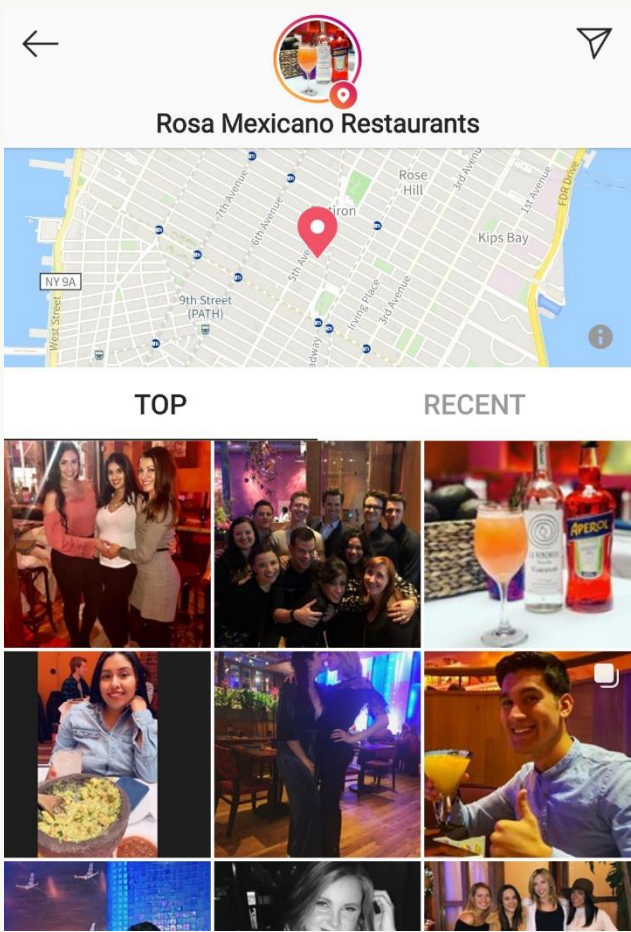
# Product: Instagram Business Locations

Helping businesses claim their locations

Claimed Location



Unclaimed Location



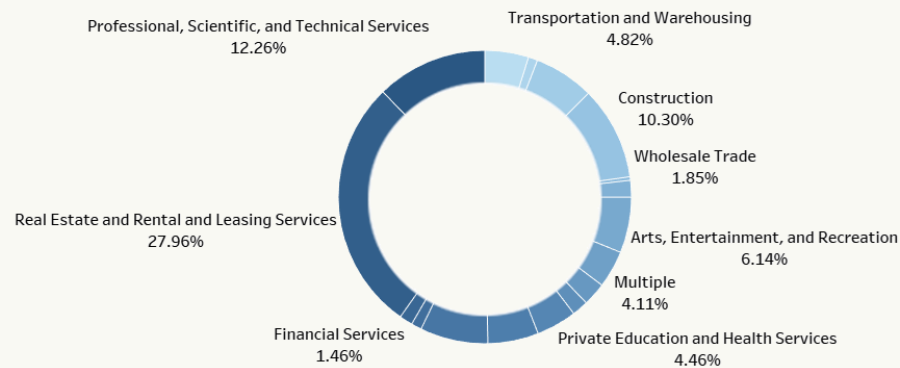
Thank you!  
Any Questions?



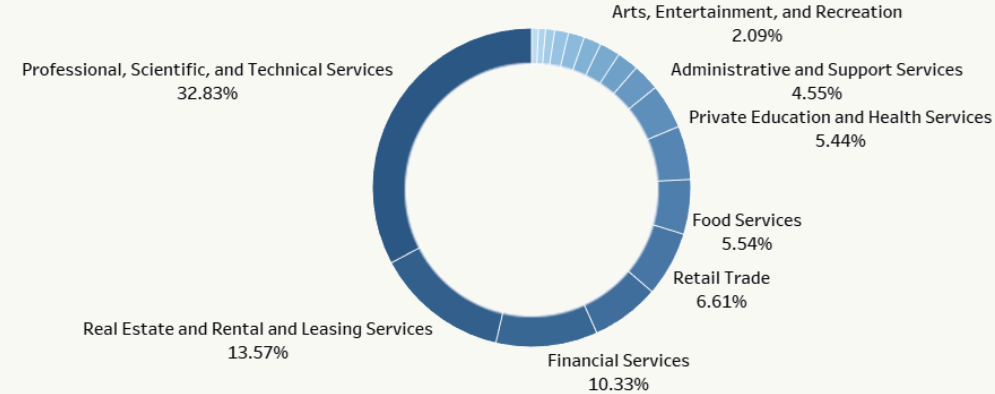
# Appendix

District Industry Breakdown

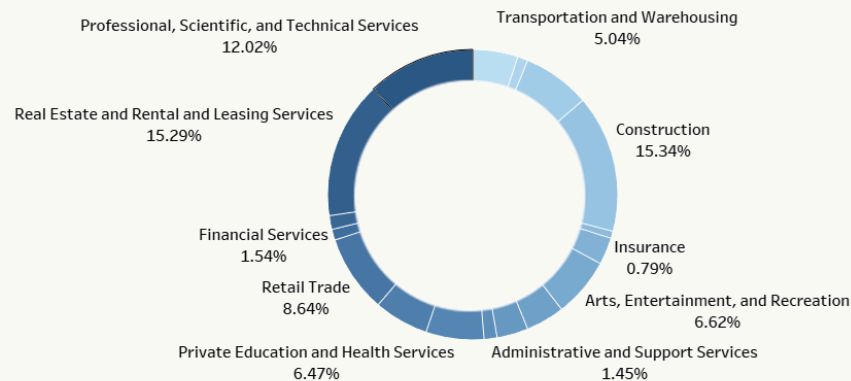
Richmond District



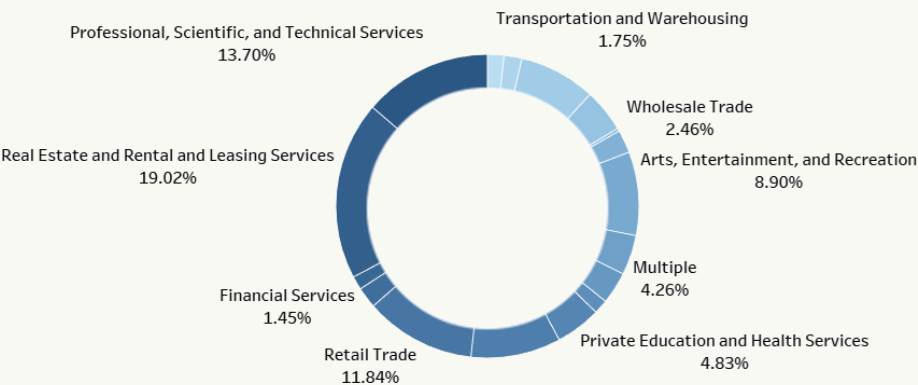
Financial District



Sunset District



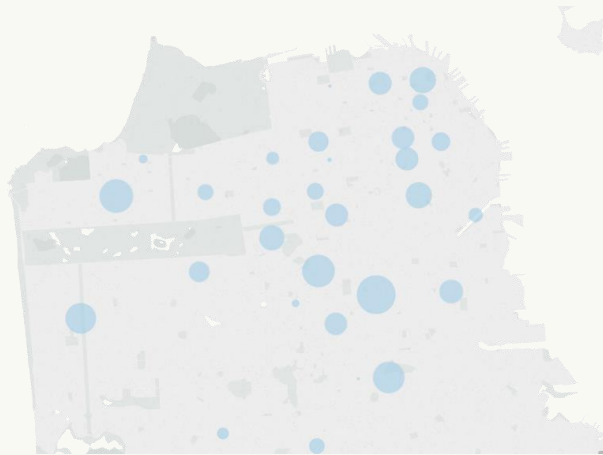
Mission District



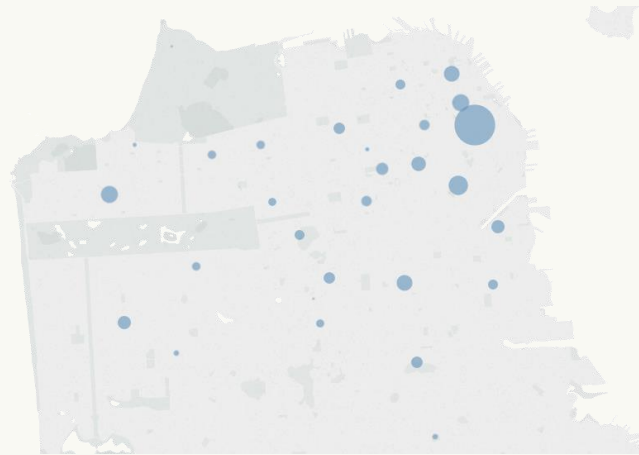
# Appendix

Industry location

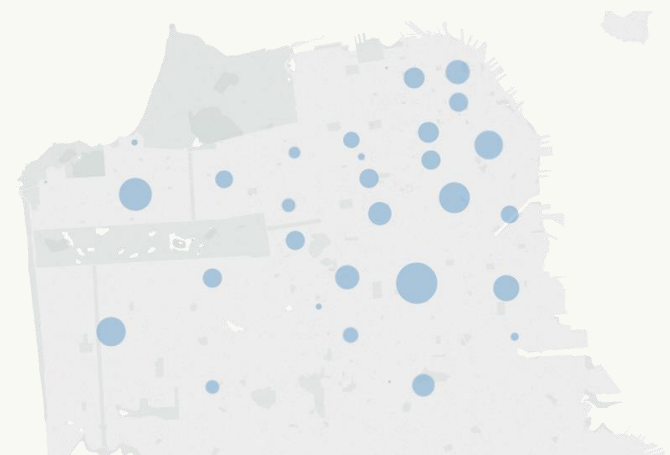
Accommodation



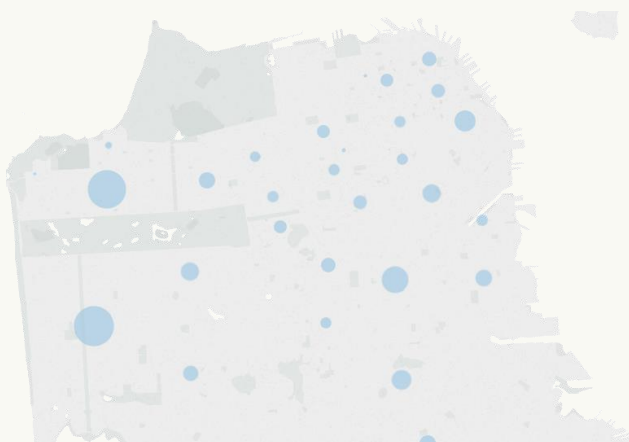
Administrative



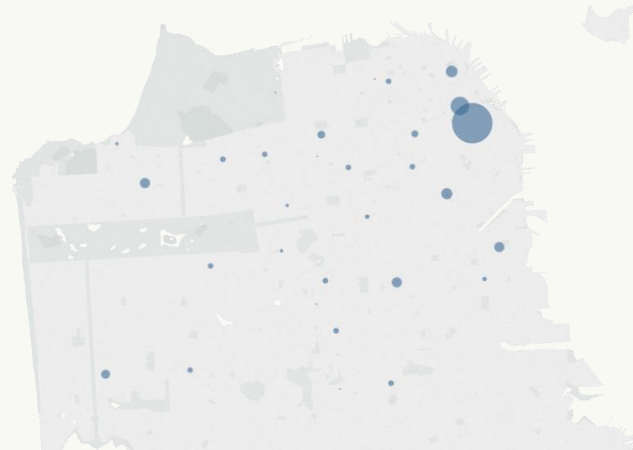
Arts



Construction



Finance



Food

