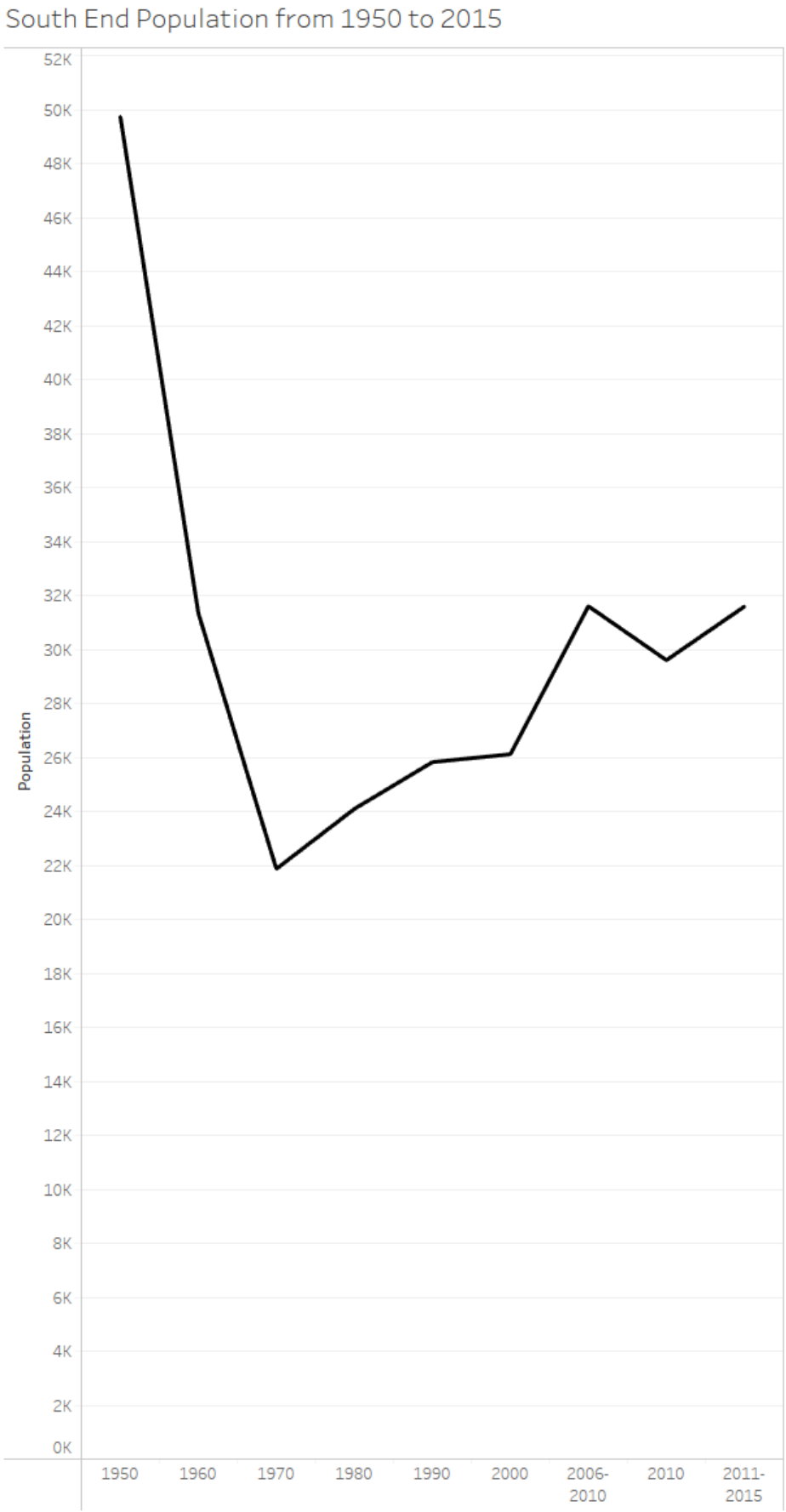
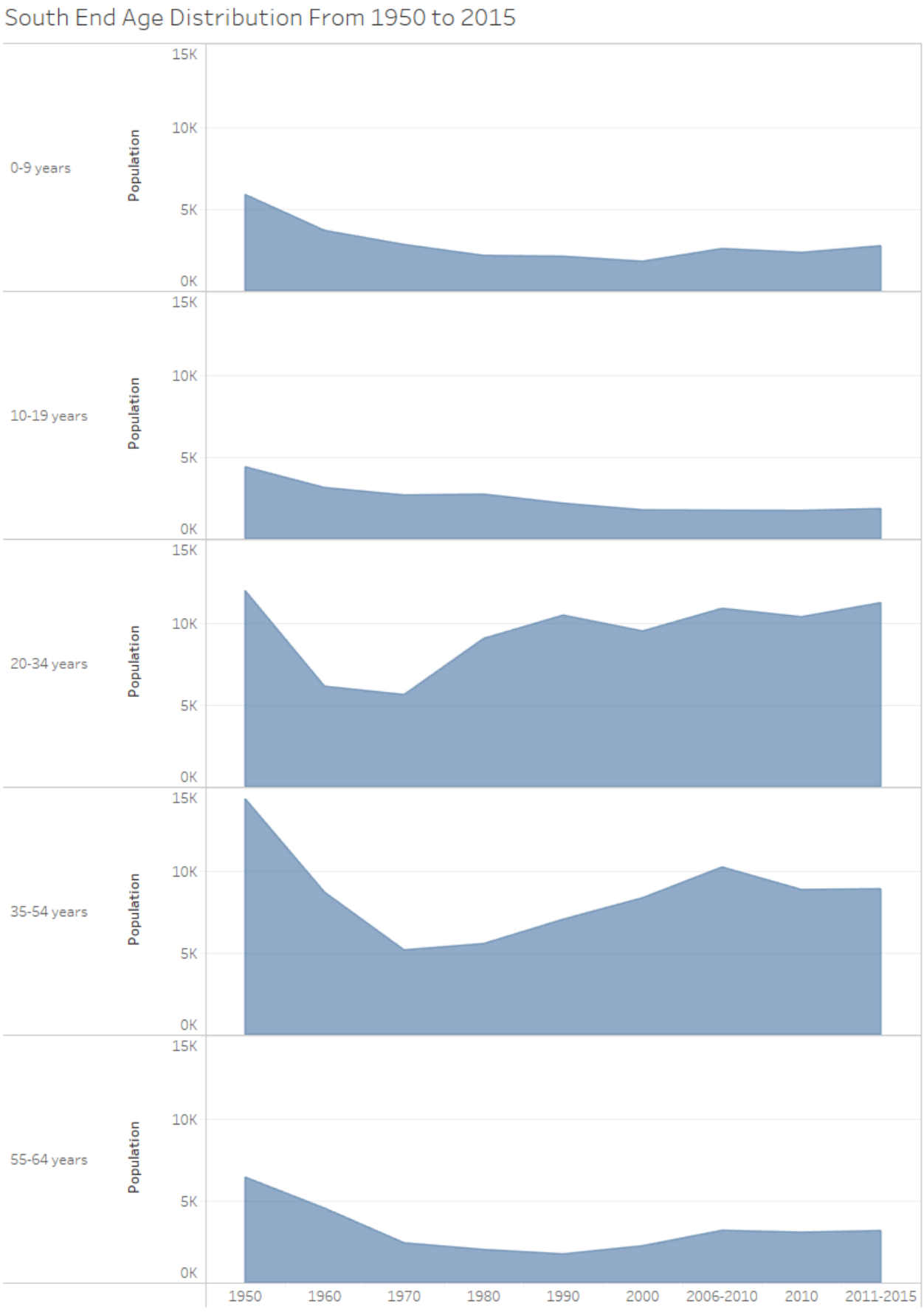
Figure 1


South End Population from 1950 to 2015
Population
52K
50K
48K
46K
44K
42K
40K
38K
36K
34K
32K
30K
28K
26K
24K
22K
20K
18K
16K
14K
12K
10K
8K
6K
4K
2K
0K
1950
1960
1970
1980
1990
2000
2006-2010
2010
2011-2015

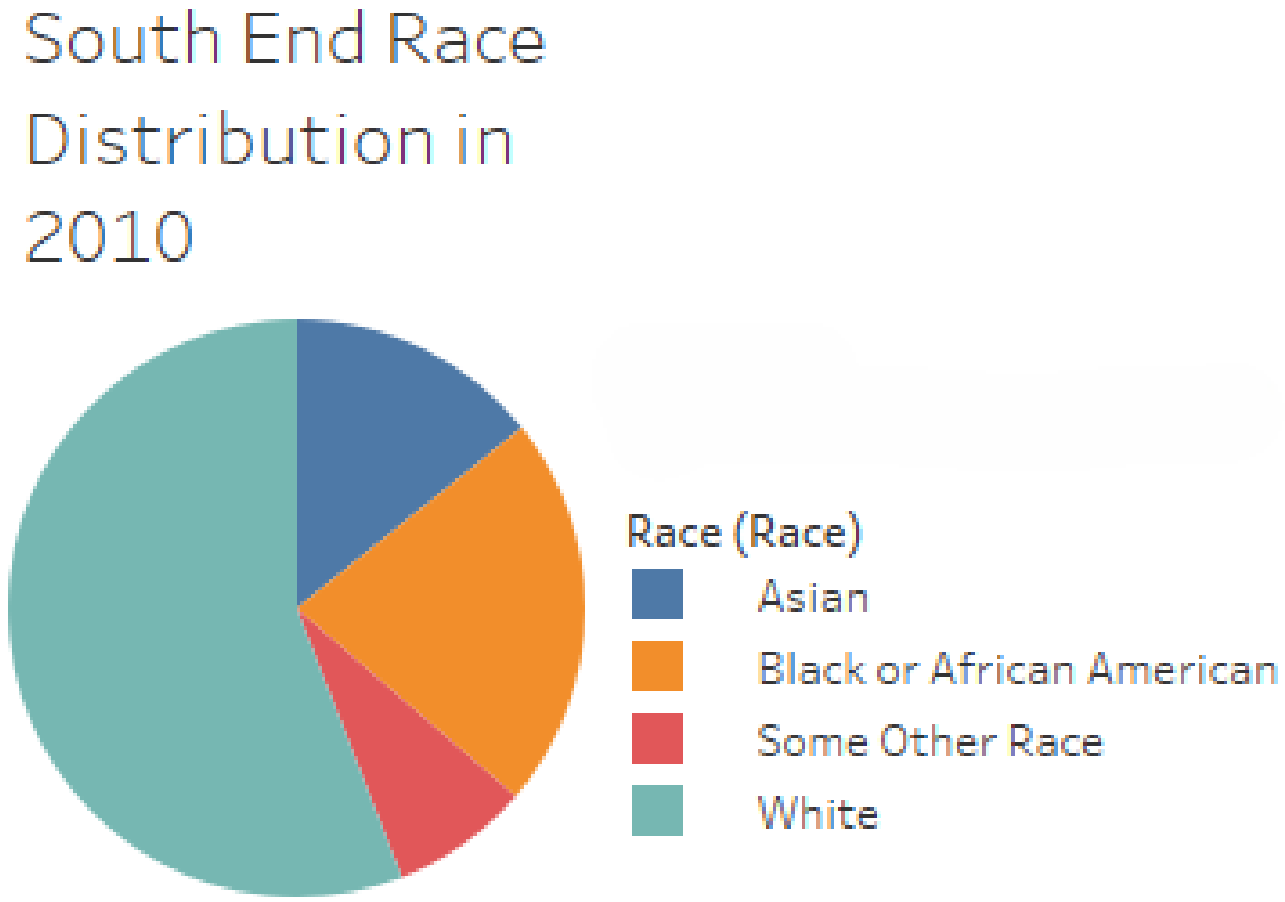
a) According to figure 1 created from the data, we can conclude that the population of South End only steadily declined from 1950 to 1970. From 1970 onwards all the way up to 2015, we can observe that there is a steady population growth. Overall, there has been a population decline from 1950 to 2015 since it went from almost 50k people to 32k people, but the population has been growing since 1970. For marks, I chose the lines for my marks as it clearly demonstrates the population trend throughout each year. It is easily understandable to the average person since you can see the line dip and go up. I didn't think an area chart was as necessary since it is only a single chart. For channels, I chose black to make the trends clearly visible and decided not to include dots to not over clutter the graph, as the focus of the information is the overall trend and not the specific population during each year. I put population as the y axis and the year as the x axis to indicate population trends as we move from left to right. A line going up or going down from left to right indicates a growth or decline as time moves on.

Figure 2


South End Age Distribution From 1950 to 2015
0-9 years
10-19 years
20-34 years
35-54 years
55-64 years
Population
15K
10K
5K
0K
1950
1960
1970
1980
1990
2000
2006-2010
2010
2011-2015

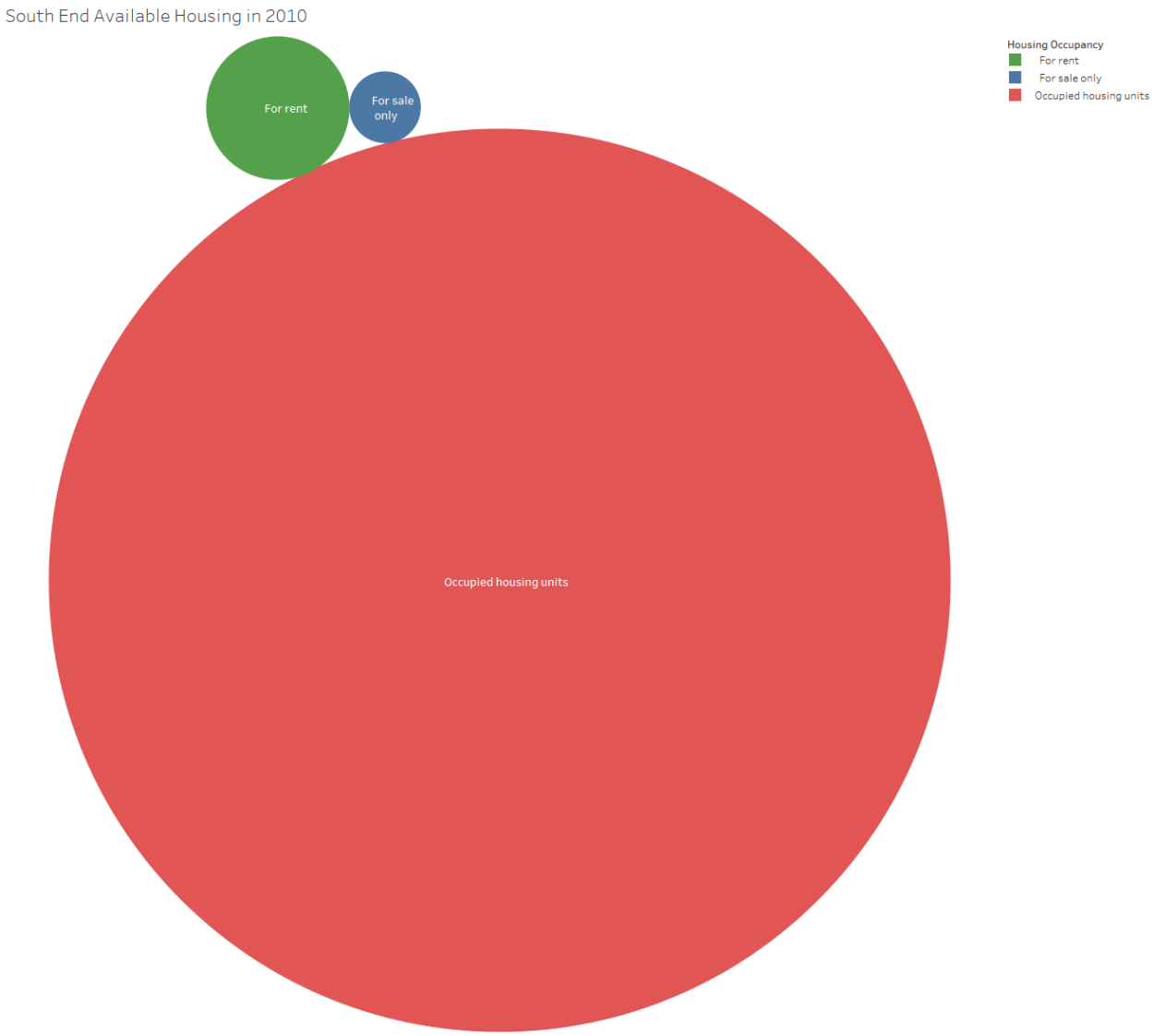
b) According to figure 2 created from the data, we can observe that the dominant age group in the South End is indeed aged 20-54. The graphs show that throughout all the years, the graphs for 20-34 and 35-54 years both contain the biggest area compared to the other graph's areas. The reason I chose to use area as a mark was due to the easy visualization of the 20-54 age dominance. It is easier to see a bigger area due to higher data points than to spend time looking through a bunch of bars for example. With the other marks such as lines, it was not as immediately clear which age groups had the biggest population due to there being multiple graphs. The area helps amplify what would normally be a line chart to differentiate between the multiple graphs. Blue was chosen as a color because it is not too distracting from the information. I put population as the y axis and the year as the x axis to indicate population trends as we move from left to right. I then divided the age distribution information amongst four separate charts to not over clutter information into a single graph. Dividing the info into four graphs keeps the information more interpretable since there is no overlap. I also made sure to order the age ranges in order from top to bottom so viewers do not have to bounce back and forth to find the next age range. The same ordering is kept for years with the same reasoning.

Figure 3



c) The hypothesis that I proposed was “South End in 2010 was racially diverse”. From what we can gather from figure 3, white people make up more than 50% of the race distribution. Asians, Blacks/African Americans, and other minorities collectively make up a little bit more than one third of the population. These results indicate that the racial diversity in South End in 2010 is not very racially diverse since one race makes up more than half of the population. I chose a pie chart as my mark with distinct different colors for my channels as it is easy to view percentage data in pie chart form with color differentiation.

Figure 4



d) The hypothesis that I proposed was “the housing market must have been really bad in 2010 if the population went down from 2006 to 2010”. According to figure 4, this idea is supported since we can see that the majority of housing units are already occupied with limited for rent housing and even smaller for sale housing. For marks, I chose the bubbles chart to emphasize the massive occupied housing situation where there is very limited available housing showcased by the comparatively tiny rent and sale bubbles. For channels, I also chose to make the occupied color red to indicate unavailability and green and blue for availability, as these are commonly associated colors with open and closed.