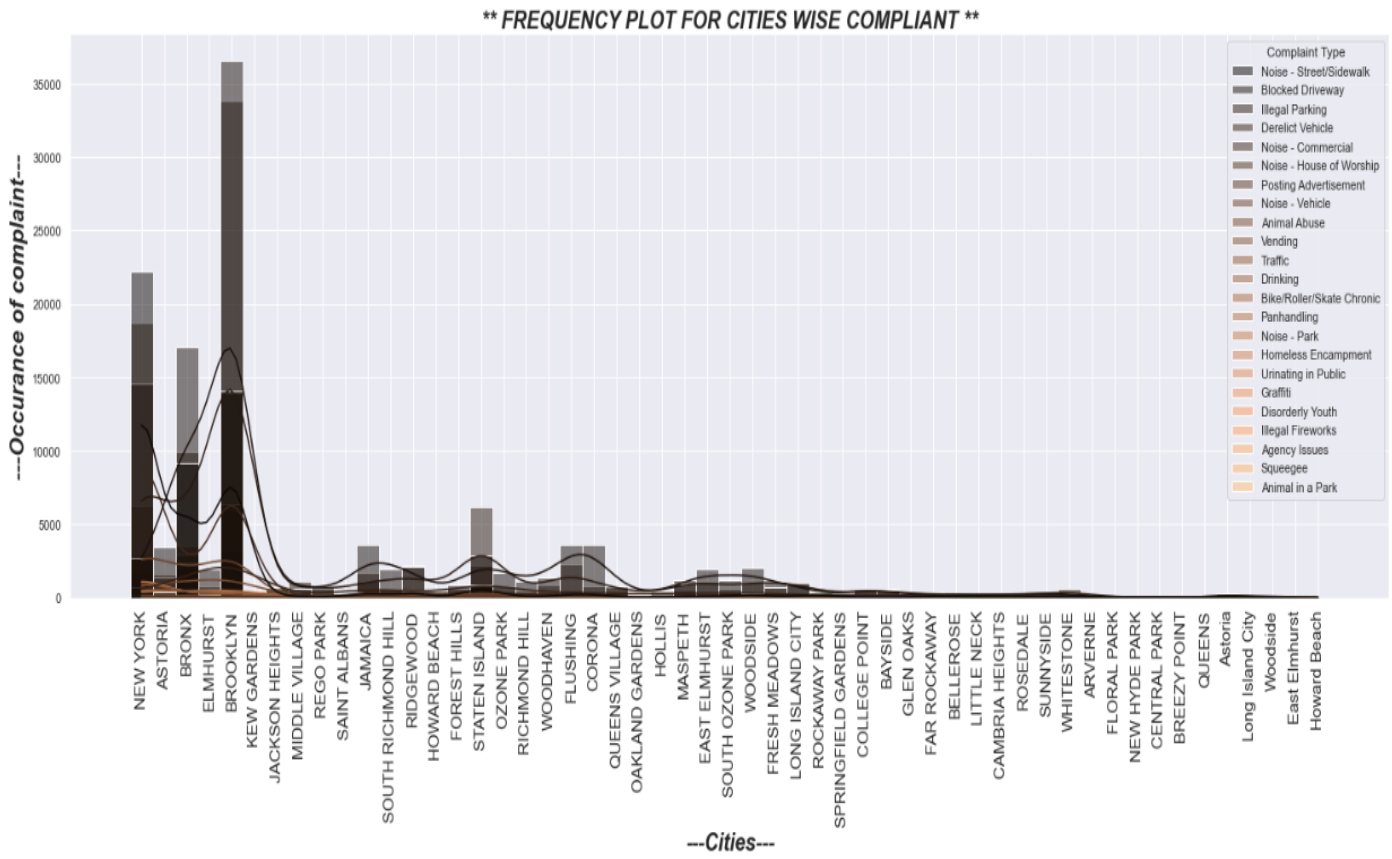
2.1.1 DRAW A FREQUENCY PLOT FOR CITY-WISE COMPLAINTS

❖ HISTPLOT FROM SEABORN LIBRARY FOR CITY WISE COMPLAINTS

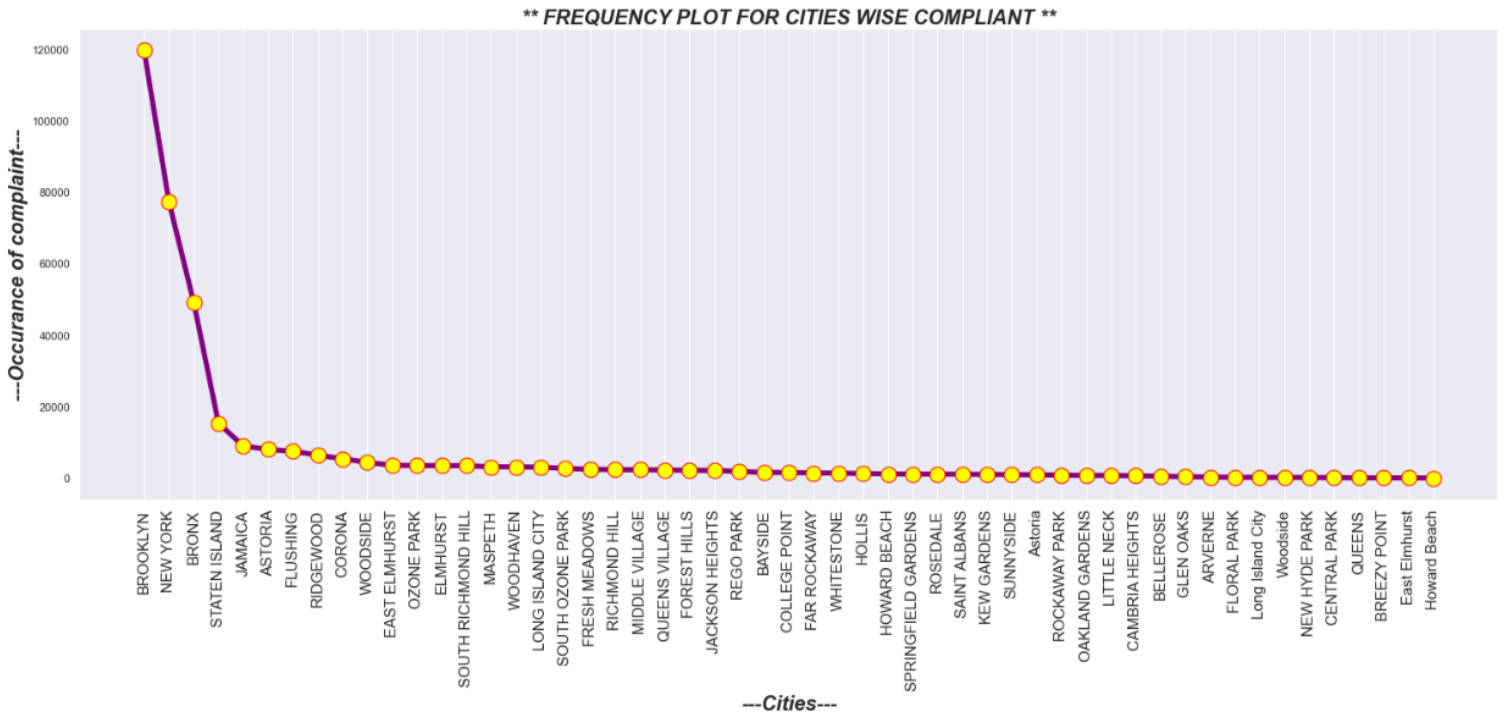
In [41]:
```
# font Style for x, y labels and tile
font_style = {'family': 'Arial', 'size': 20, 'weight': 'bold', 'style': 'italic'}

# Suitable figure size by seaborn
sns.set(rc={'figure.figsize':(25,8.5)})

# Histplot can helps to make frequency plot by two categorical columns
sns.histplot(data=calls, x='City', hue='Complaint Type', palette='copper', alpha=0.5, kde=True)

# plot represenation by labels
plt.xlabel('---Cities---',fontdict=font_style)
plt.ylabel('---Occurance of complaint---',fontdict=font_style)
plt.title('** FREQUENCY PLOT FOR CITIES WISE COMPLIANT **',fontdict=font_style)

# the below comment used for showing the x values by vertically
plt.xticks(rotation='vertical', ha='center',size=15)
plt.show()
```



2.1.1 DRAW A FREQUENCY PLOT FOR CITY-WISE COMPLAINTS

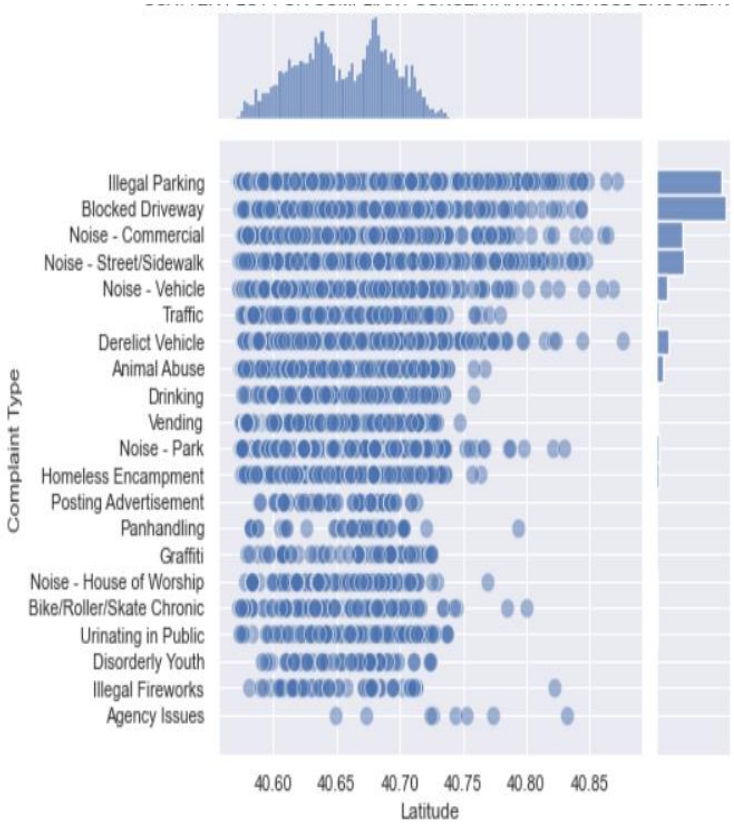
- **LINE PLOT FROM MATPLOT LIBRARY FOR CITY WISE COMPLAINTS**

In [44]:
```
font_style = {'family': 'Arial', 'size': 20, 'weight': 'bold', 'style': 'italic'}
plt.figure(figsize=(25,8.5))
plt.plot(value_count,marker ='o',ms=15, mec='red', mfc='yellow',c='purple',lw=5)
plt.grid(axis='y',ls='solid',color ='k',lw=0.5,alpha=0.5)
plt.xlabel('---Cities---',fontdict=font_style)
plt.ylabel('---Occurance of complaint---',fontdict=font_style)
plt.title('** FREQUENCY PLOT FOR CITIES WISE COMPLIANT **',fontdict=font_style)
plt.xticks(rotation='vertical', ha='center',size=15)
plt.show()
```



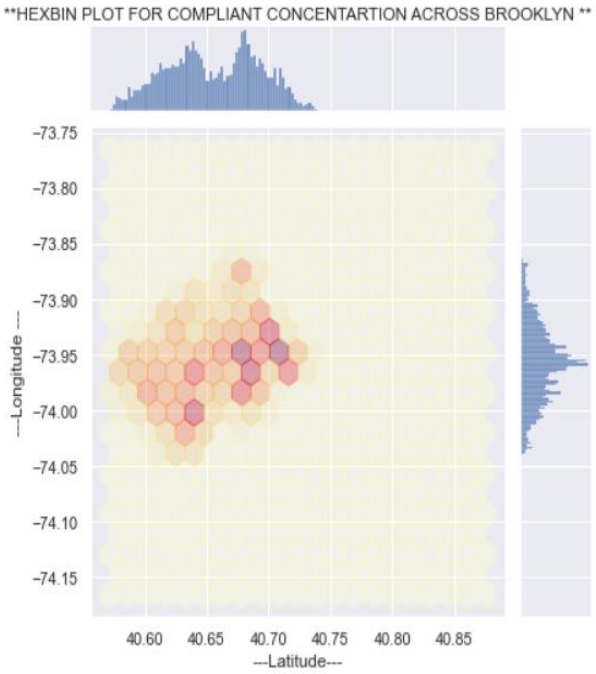
2.2.2 Draw Scatter Plot for Complaint Concentration across Brooklyn

In [51]:
```
# font Style for x, y labels and tile
font_style = {'family': 'Arial', 'size': 20, 'weight': 'bold', 'style': 'italic'}

plt.rcParams['figure.figsize'] = [15, 6]

# JointPlot can helps to create scatter plot by One Numerical col and one categorical columns
sns.jointplot(x='Latitude',y ='Complaint Type',data=select_ones_Brookyn, kind='scatter',palette ='husl',s=100,alpha=0.5)

# pLot represenation by labels
plt.xlabel('---Latitude---',size=20)
plt.ylabel('---Occurance of complaint Type---',size=20)
plt.title('** SCATTER PLOT FOR COMPLIANT CONCENTARTION ACROSS BROOKLYN **', x=-3, y=1.2)
plt.xticks(rotation=90)
plt.show()
```



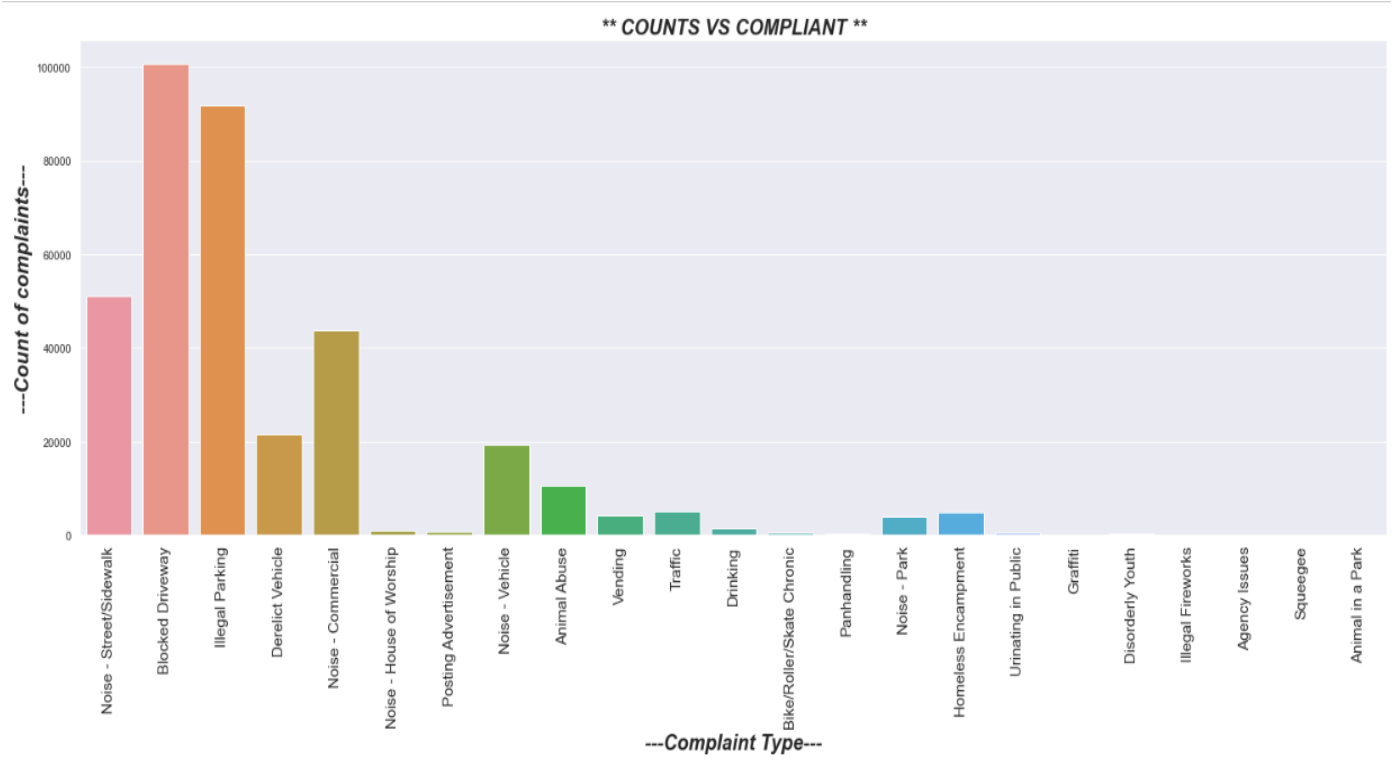
2.2.2 Draw HEXBIN Plot for Complaint Concentration across Brooklyn

In [52]:
```
# Hexa bin will works only in float type value columns
sns.jointplot(x='Latitude', y ='Longitude',data=select_ones_Brookyn, kind='hex', gridsize=20, cmap='YlOrRd',alpha=0.345)
plt.xlabel('---Latitude---',size=12)
plt.ylabel('---Longitude ---',size=12)
plt.title('**HEXBIN PLOT FOR COMPLIANT CONCENTARTION ACROSS BROOKLYN **',y=1.2)
plt.show()
```



3.1 Plot Bar Graph of Count vs Compliant Types

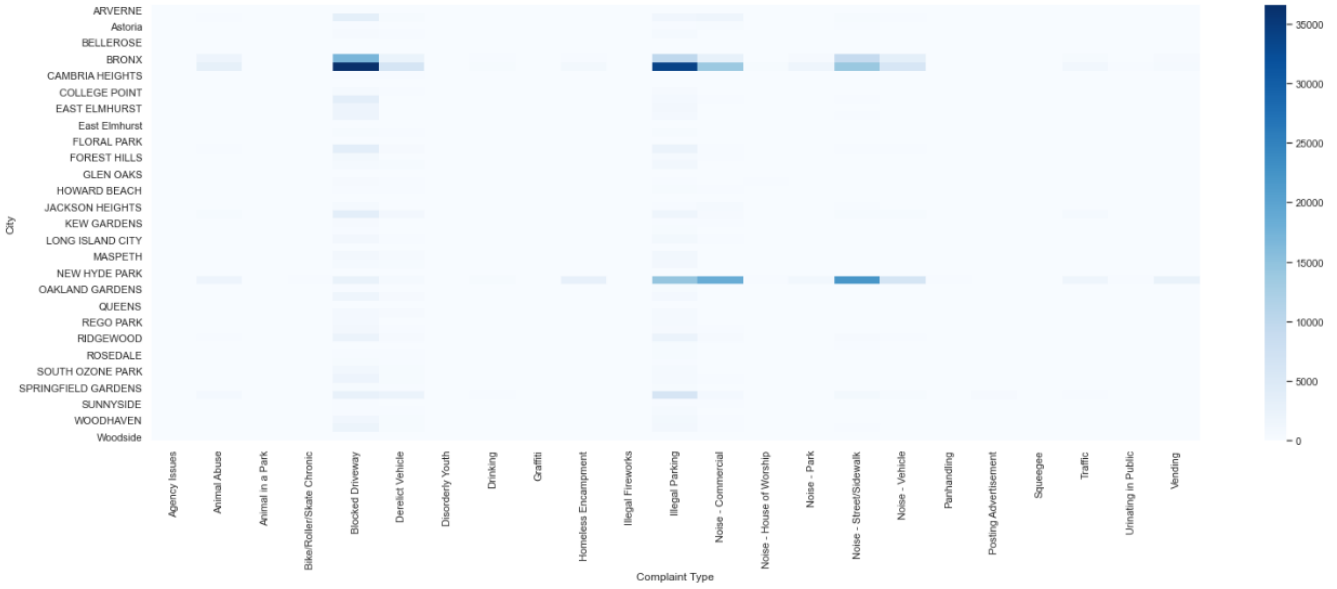
In [53]:
```
# font Style for x, y labels and tile
font_style = {'family': 'Arial', 'size': 20, 'weight': 'bold', 'style': 'italic'}

# Suitable figure size by seaborn
sns.set(rc={'figure.figsize':(25,8.5)})

# countplot can helps to make frequency plot by one categorical columns
sns.countplot(x="Complaint Type", data=calls)

# plot represenation by labels
plt.xlabel('---Complaint Type---',fontdict=font_style)
plt.ylabel('---Count of complaints---',fontdict=font_style)
plt.title('** COUNTS VS COMPLIANT **',fontdict=font_style)

# the below comment used for showing the x values by vertically
plt.xticks(rotation='vertical', ha='center',size=15)
plt.show()
```



4.VISUALIZE THE MAJOR TYPES OF COMPLAINTS IN EACH CITY

In [66]:
```
sns.heatmap(Heat_map_visual_Type_of_complaint, cmap='Blues')
```

Out[66]:
```
<AxesSubplot:xlabel='Complaint Type', ylabel='City'>
```



5.CHECK IF THE AVERAGE RESPONSE TIME ACROSS VARIOUS TYPES OF COMPLAINTS

In [73]:
```
font_style = {'family': 'Arial', 'size': 20, 'weight': 'bold', 'style': 'italic'}
plt.figure(figsize=(25,8.5))
plt.plot(avg_time_difference,marker ='o',ms=15, mec='red', mfc='yellow',c='purple',lw=5)
plt.grid(axis='y',ls='solid',color ='k',lw=0.5,alpha=0.5)
plt.xlabel('---Occurance of complaint---',fontdict=font_style)
plt.ylabel('--- Average Time ---',fontdict=font_style)
plt.title('** AVERAGE RESPONSE TIME ACROSS VARIOUS TYPES OF COMPLAINTS **',fontdict=font_style)
plt.xticks(rotation='vertical', ha='center',size=15)
plt.show()
```