Assignment_6

March 9, 2022

[48]:
```
import pandas as pd
import seaborn as sns

# define a class to call object to analyze specific data for stats on single␣
 ↪user
# industrial properties in Red Deer, Alberta, Canada
# that have sold/leased or are currently active for sale/lease


class SingleUserIndustrial():

    def __init__(self, excelsheet: str):
        self._fn = f'{excelsheet}.xlsx'
        print(f'Trying to read from {excelsheet}\n')
        self._df = None


    def read_from_xlsx(self):
        self._df =   (pd.read_excel(self._fn, sheet_name='Industrial Building␣
 ↪Sales')
                        .drop(['Address', 'Municipality', 'Zoning', 'Lat',␣
 ↪'Long'], axis=1)
                        .set_index("Type"))


        self._df = self._df.fillna(0).astype({'Footprint SF':'int64', 'Asking␣
 ↪Price/Price Sold':'int64'})
        print(f'{self._fn} has {len(self._df)} records.')
        display(self._df.head())


    def leased(self):
        leased = self._df.loc['Leased'].copy()
        leased.drop(['Asking Price/Price Sold', 'Price PSF'], axis=1,␣
 ↪inplace=True)
        leased.rename(columns={"Date Sold/Leased":"Date Leased"}, inplace=True)
        print(f'Leased Type has {len(leased)} records')
```

```
        display(leased.head())
        return leased

    def sold(self):
        sold = self._df.loc['Sold'].copy()
        sold.drop(['Lease Rate PSF'], axis=1, inplace=True)
        sold.rename(columns={"Asking Price/Price Sold":"Price Sold", "Date Sold/
↪Leased":"Date Sold"}, inplace=True)
        print(f'Sold Type has {len(sold)} records')
        display(sold.head())
        return sold

    def active(self):
        active = self._df.loc['Active'].copy()
        active.drop(['Date Sold/Leased'], axis=1, inplace=True)
        active.rename(columns={"Asking Price/Price Sold":"Asking Price"},␣
↪inplace=True)
        print(f'Active Type has {len(active)} records')
        display(active.head())
        return active

    def leased_avg(self):
        return self.leased()['Lease Rate PSF'].mean()

    def sold_avg(self):
        return self.sold()['Price PSF'].mean()

    def active_area(self):
        return self.active()['Building SF'].sum()

    def sns_leased(self):
        sns_leased = self.leased().set_index('Date Leased')
        sns.set_style("white")
        sns.scatterplot(data=sns_leased, x="Date Leased", y="Lease Rate PSF",␣
↪palette='dark')

    def sns_sold(self):
        sns_sold = self.sold().set_index('Date Sold')
        sns.set_style("white")
        sns.scatterplot(data=sns_sold, x="Date Sold", y="Price PSF",␣
↪palette='dark')

    def sns_total(self):
        sns_total = self._df.reset_index()
        sns.set_style("white")
        sns.relplot(data=sns_total, x="Parcel Acres", y="Building SF",␣
↪hue="Type", palette='dark')
```

```
si = SingleUserIndustrial('2022-03 Single User Sale Lease Comps')
si.read_from_xlsx()
print(f'The Average Lease Rate is ${si.leased_avg():,.2f} PSF\n')
print(f'The Average Sold Price is ${si.sold_avg():,.2f} PSF\n')
print(f'There is currently {si.active_area():,.0f} SF available for sale or␣
 ↪lease\n')

print(si.sns_sold())
si.sns_total()
```

```
Trying to read from 2022-03 Single User Sale Lease Comps

2022-03 Single User Sale Lease Comps.xlsx has 70 records.
        Parcel Acres  Building SF  Footprint SF  Site Coverage %  \
Type
Leased         13.76        33750         27388         0.045693
Leased          3.77        22500         16727         0.101857
Leased         10.23        28100         25000         0.056102
Leased          2.63        10000         10000         0.087288
Leased          4.38        30520         30520         0.159964

        Lease Rate PSF  Asking Price/Price Sold  Price PSF  \
Type
Leased          11.000                        0        0.0
Leased          10.000                        0        0.0
Leased           7.120                        0        0.0
Leased          14.625                        0        0.0
Leased           5.000                        0        0.0

           Date Sold/Leased
Type
Leased  2021-04-15 00:00:00
Leased  2020-03-01 00:00:00
Leased  2020-06-01 00:00:00
Leased  2021-04-01 00:00:00
Leased  2020-11-01 00:00:00

Leased Type has 16 records
        Parcel Acres  Building SF  Footprint SF  Site Coverage %  \
Type
Leased         13.76        33750         27388         0.045693
Leased          3.77        22500         16727         0.101857
Leased         10.23        28100         25000         0.056102
```

```
Leased          2.63        10000          10000         0.087288
Leased          4.38        30520          30520         0.159964

        Lease Rate PSF          Date Leased
Type
Leased          11.000  2021-04-15 00:00:00
Leased          10.000  2020-03-01 00:00:00
Leased           7.120  2020-06-01 00:00:00
Leased          14.625  2021-04-01 00:00:00
Leased           5.000  2020-11-01 00:00:00
```

The Average Lease Rate is $8.74 PSF

Sold Type has 21 records

```
      Parcel Acres  Building SF  Footprint SF  Site Coverage %  Price Sold  \
Type
Sold          6.37        17825         17825         0.064240     1100000
Sold         10.01        39518         39518         0.090630     5000000
Sold          4.72        34811         29405         0.143021     9300000
Sold         16.63        64606         56000         0.077305     6500000
Sold          1.29        22874         15547         0.276674     2100000

       Price PSF            Date Sold
Type
Sold   61.711080  2021-10-15 00:00:00
Sold  126.524622  2019-12-02 00:00:00
Sold  267.156933  2021-03-31 00:00:00
Sold  100.609850  2020-02-03 00:00:00
Sold   91.807292  2019-03-11 00:00:00
```

The Average Sold Price is $130.32 PSF

Active Type has 33 records

```
        Parcel Acres  Building SF  Footprint SF  Site Coverage %  \
Type
Active          4.97        32760         30590         0.141300
Active         12.00        18238         17050         0.032618
Active          7.75        44000         38000         0.112563
Active         17.50         8000          8000         0.010495
Active          4.00        12318         12318         0.070696

        Lease Rate PSF  Asking Price   Price PSF
Type
Active            12.0       5400000  164.835165
Active             0.0       2490000  136.528128
Active             5.0       4999000  113.613636
Active             0.0       5995000  749.375000
Active             0.0       2795000  226.903718
```

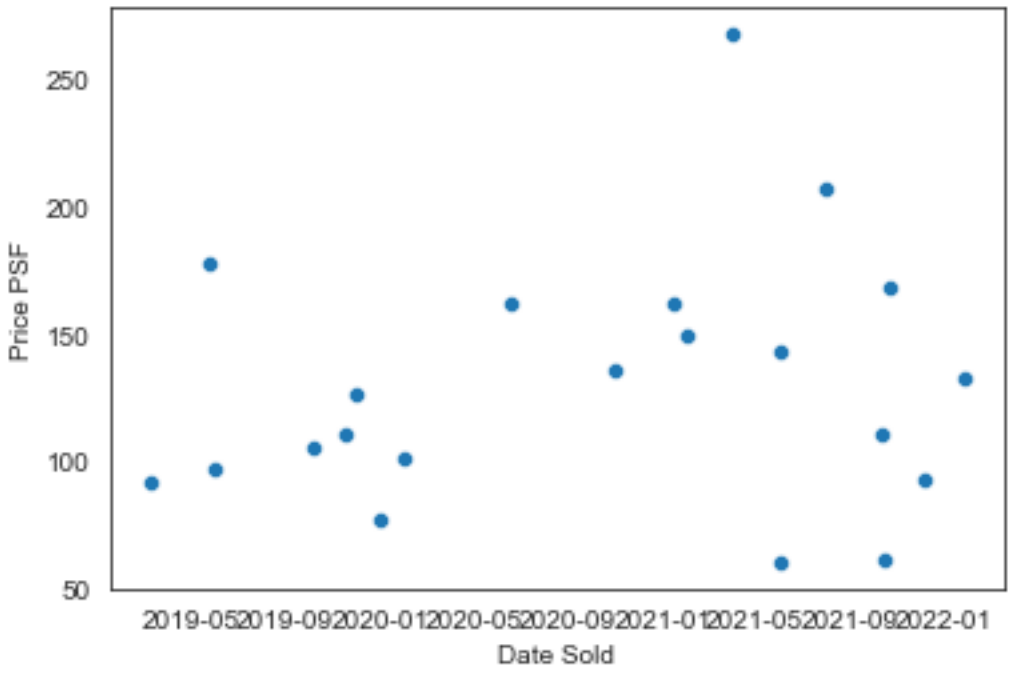
There is currently 743,419 SF available for sale or lease

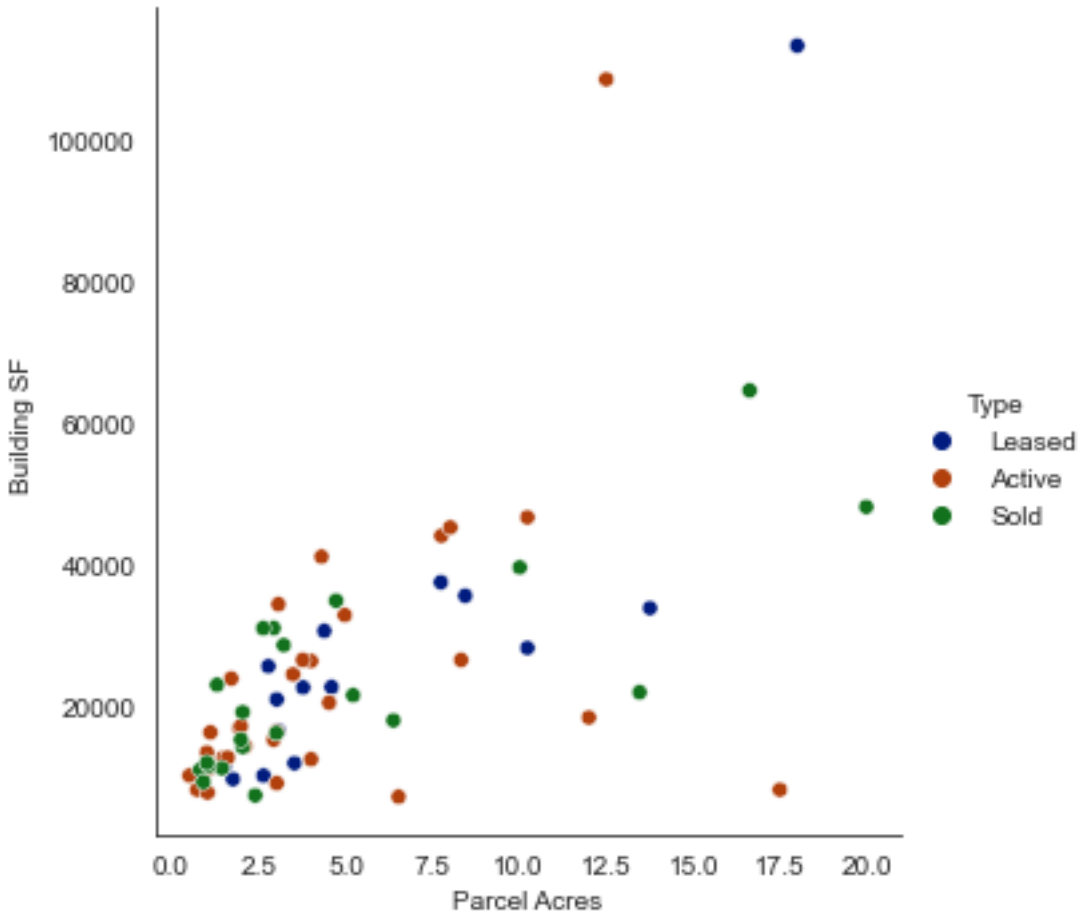
Sold Type has 21 records

Type	Parcel Acres	Building SF	Footprint SF	Site Coverage %	Price Sold	\
Sold	6.37	17825	17825	0.064240	1100000	
Sold	10.01	39518	39518	0.090630	5000000	
Sold	4.72	34811	29405	0.143021	9300000	
Sold	16.63	64606	56000	0.077305	6500000	
Sold	1.29	22874	15547	0.276674	2100000	

Type	Price PSF	Date Sold
Sold	61.711080	2021-10-15 00:00:00
Sold	126.524622	2019-12-02 00:00:00
Sold	267.156933	2021-03-31 00:00:00
Sold	100.609850	2020-02-03 00:00:00
Sold	91.807292	2019-03-11 00:00:00

None




100000
80000
60000
40000
20000
Building SF
0.0
2.5
5.0
7.5
10.0
12.5
15.0
17.5
20.0
Parcel Acres
Type
Leased
Active
Sold

[78]: