

Demolition and construction

This notebook uses lists of permits for residential demolition and residential construction to compare the total sizes of properties demolished and constructed on the same property.

```
In [1]: import pandas as pd
```

```
In [2]: demo = pd.read_csv(
    '.../data-processed/Demo residential.csv',
    dtype=str
)

construction = pd.read_csv(
    '.../data-processed/New residential.csv',
    dtype=str
)
```

```
In [3]: dat = pd.DataFrame(demo[
    # Filter for properties in both demolition and construction lists
    demo.TCAD_ID.isin(
        construction.TCAD_ID
    )
].assign(
    TotalExistingBldgSQFT = lambda x: x.TotalExistingBldgSQFT.str.replace(
        ',', ''
    ).astype(int)
).query(
    # Filter for demolitions where space demolished was more than zero
    'TotalExistingBldgSQFT > 0'
).groupby(
    # Sum the total space demolished for each property
    # Some properties had multiple demolition permits
    'TCAD_ID'
).TotalExistingBldgSQFT.sum().rename(
    'demolition'
)).join(
    construction.assign(
        TotalNewAddSQFT = lambda x: x.TotalNewAddSQFT.astype(int)
    ).groupby(
        # Sum the total construction space for each property
        # and join to demolition totals on parcel id.
        'TCAD_ID'
    ).TotalNewAddSQFT.sum().rename('construction')
).assign(
    # Compare total construction space to total demolition space
    more_construction = lambda x: x.construction > x.demolition
)
```

```
In [4]: print(
    'Among {:,} properties with sizes given for both demolition and constructi
on, how many had more total space constructed than demolished?\n'.format(
    dat.shape[0]
    )
)

pd.DataFrame(
    dat.more_construction.value_counts().apply(
        '{:,}'.format
    ).rename('number')
).join(
    pd.DataFrame(dat.more_construction.value_counts(normalize=True).apply(
        '{:.2%}'.format
    ).rename('percent'))
)
```

Among 2,370 properties with sizes given for both demolition and construction, how many had more total space constructed than demolished?

Out[4]:

	number	percent
True	2,291	96.67%
False	79	3.33%

In []: