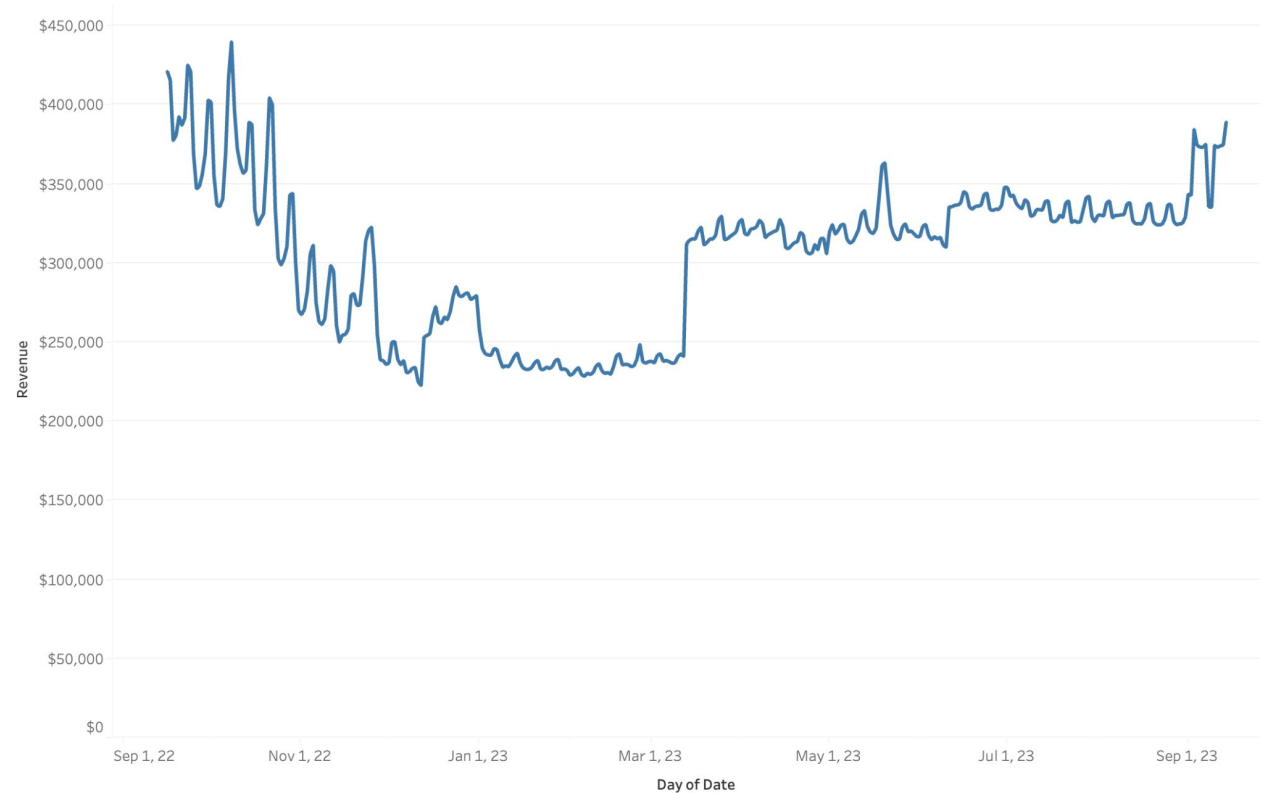# Washington DC Airbnb Data

Nathanael, Aidan
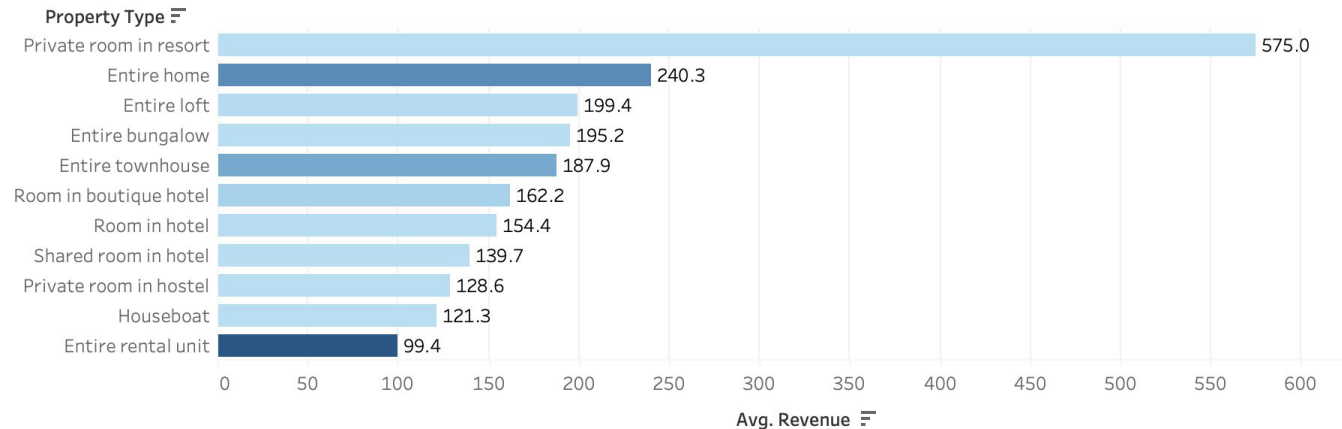
# Total Revenue by date

- During the fall has the highest performance.

- Performance drops at the end of the year
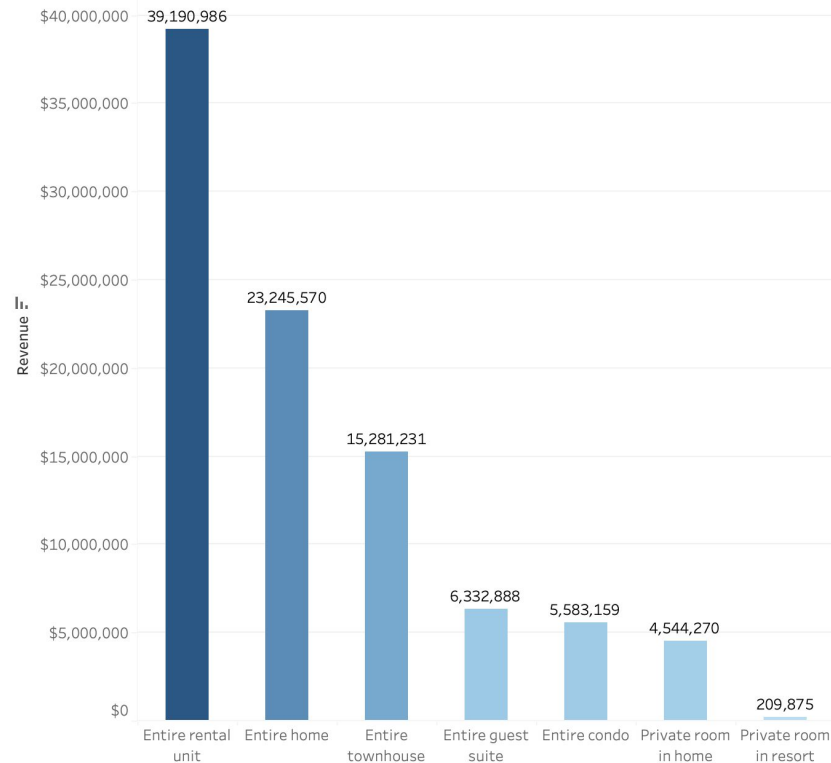
# Property Performance by Average Revenue

- Based on the data "Entire" and "Room" properties are the best performers in Washington DC

- Average revenue for 'Entire rental unit' is $99
- 'Private room in resort' has highest average

**Property Type**

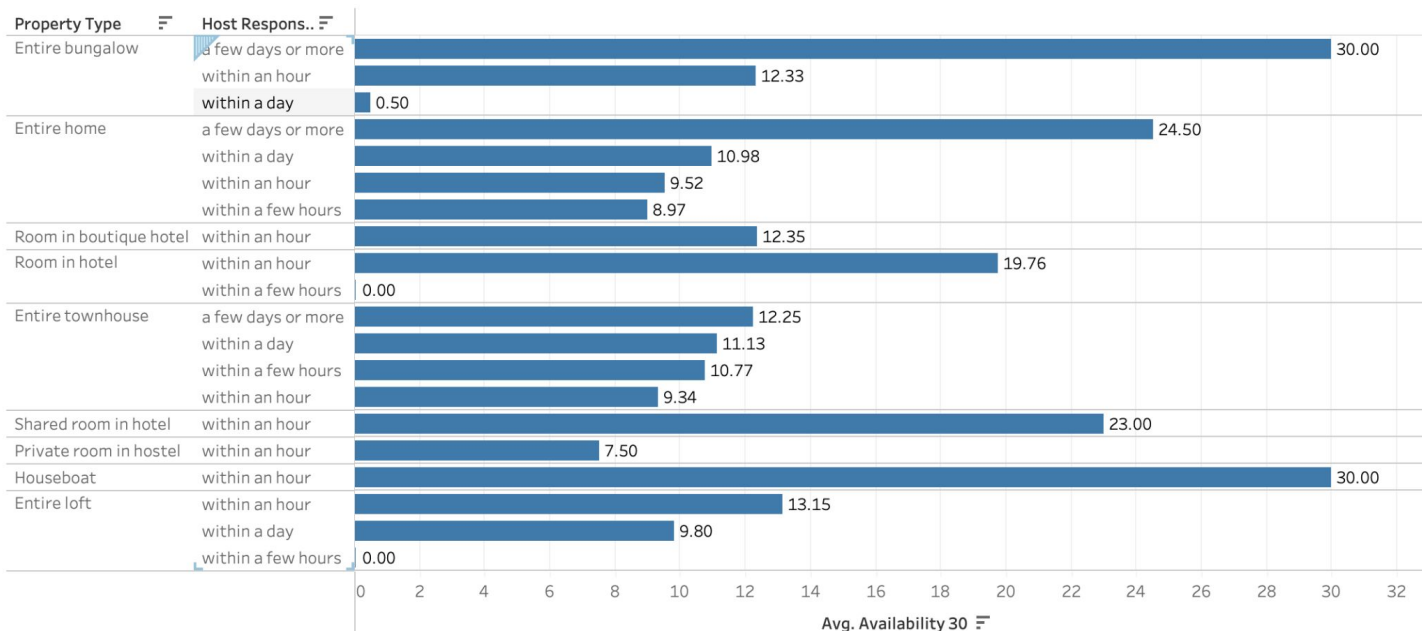| Property Type | Avg. Revenue |
|---|---|
| Private room in resort | 575.0 |
| Entire home | 240.3 |
| Entire loft | 199.4 |
| Entire bungalow | 195.2 |
| Entire townhouse | 187.9 |
| Room in boutique hotel | 162.2 |
| Room in hotel | 154.4 |
| Shared room in hotel | 139.7 |
| Private room in hostel | 128.6 |
| Houseboat | 121.3 |
| Entire rental unit | 99.4 |

**Avg. Revenue**

# Property Performance by Total Revenue

- Based on the data "Entire" properties are the best performers in Washington DC

- What could be the reason for the property types high projected revenue?

- Could it be the price, availability, or location?

# Availability by Host Response Time

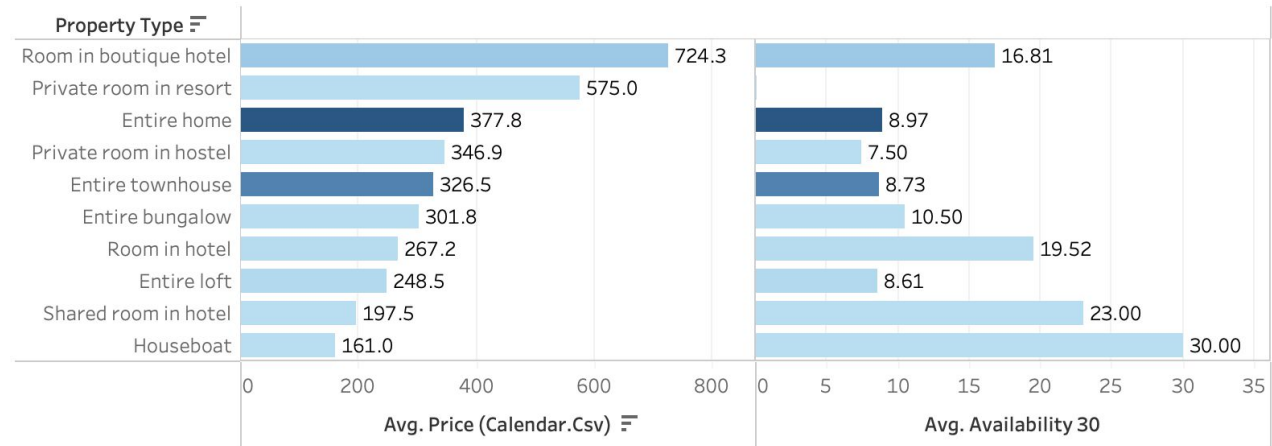| Property Type | Host Respons.. | Avg. Availability 30 |
|---|---|---|
| Entire bungalow | a few days or more | 30.00 |
| | within an hour | 12.33 |
| | within a day | 0.50 |
| Entire home | a few days or more | 24.50 |
| | within a day | 10.98 |
| | within an hour | 9.52 |
| | within a few hours | 8.97 |
| Room in boutique hotel | within an hour | 12.35 |
| Room in hotel | within an hour | 19.76 |
| | within a few hours | 0.00 |
| Entire townhouse | a few days or more | 12.25 |
| | within a day | 11.13 |
| | within a few hours | 10.77 |
| | within an hour | 9.34 |
| Shared room in hotel | within an hour | 23.00 |
| Private room in hostel | within an hour | 7.50 |
| Houseboat | within an hour | 30.00 |
| Entire loft | within an hour | 13.15 |
| | within a day | 9.80 |
| | within a few hours | 0.00 |

Avg. Availability 30

- The highest revenue earning property type 'Private room in resort' doesn't have any data on availability.

- The rate at which the host responds indicates the availability of some of the best-performing properties.

- The better-performing properties include a host response generally within a few days.

- Another thing to note is that the lowest occupation is usually when it takes the host to reply a day or longer.

- As noticed the average availability is two times less with a faster reply time than with a host with a longer reply time.

# Property Type by Availability and Price

The properties that have the highest availability like "Houseboat" and "Shard room in hotel" also have the lowest price as shown by the dataset.

The properties that have the highest price have the least days of availability. As seen in "Entire home" and "Entire townhouse".



| Property Type | Avg. Price (Calendar.Csv) | Avg. Availability 30 |
|---|---|---|
| Room in boutique hotel | 724.3 | 16.81 |
| Private room in resort | 575.0 | |
| Entire home | 377.8 | 8.97 |
| Private room in hostel | 346.9 | 7.50 |
| Entire townhouse | 326.5 | 8.73 |
| Entire bungalow | 301.8 | 10.50 |
| Room in hotel | 267.2 | 19.52 |
| Entire loft | 248.5 | 8.61 |
| Shared room in hotel | 197.5 | 23.00 |
| Houseboat | 161.0 | 30.00 |

# Proposed Action

- As indicated by the data a property with a high price and low availability performs better than a property with a low price and high availability.

- Going deeper, availability is influenced highly by the amount of time that it takes for the host to reply. A proposed action is for the host to reply before the course of a day or longer to people looking to rent a certain property. Preferably, within an hour.
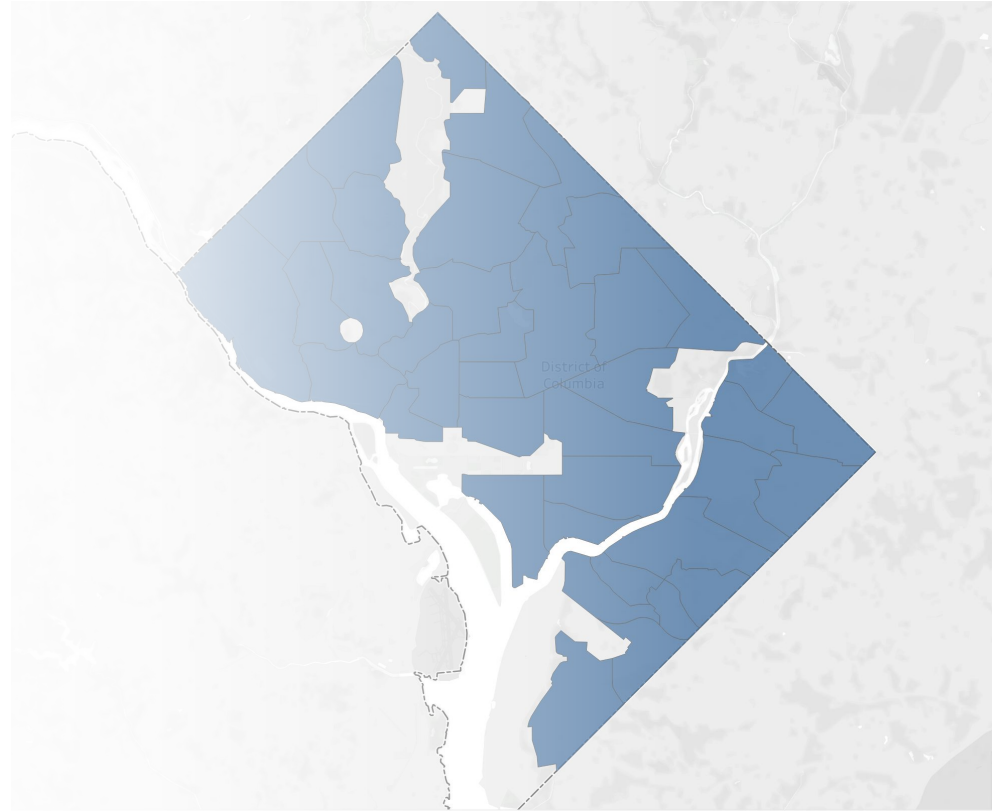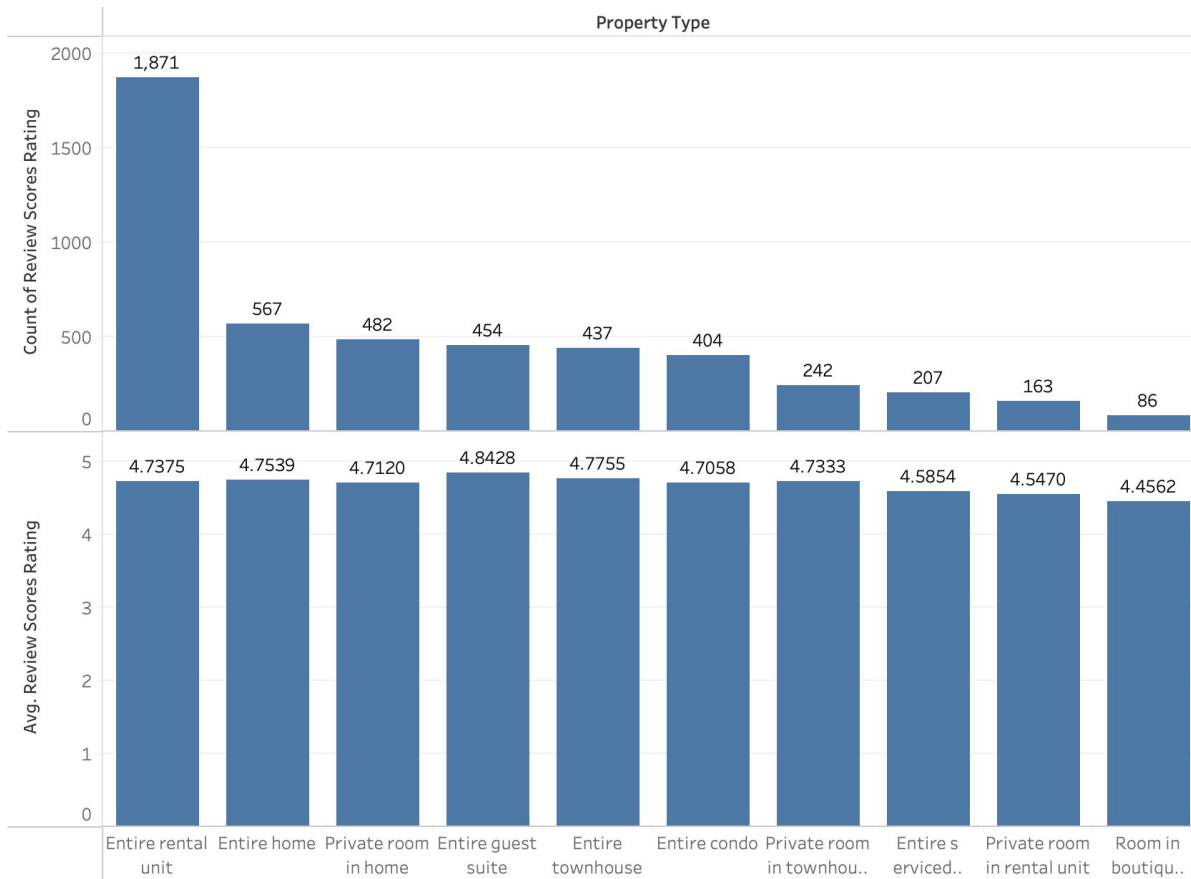
# Overall Impact

- If the host's reply time was decreased, then the availability would decrease by about two times.

- Multiplying the average difference by the price per night, we would be saving about $2,614.

# Property by Review Rating

- The graph displays the top ten properties based on their ratings.
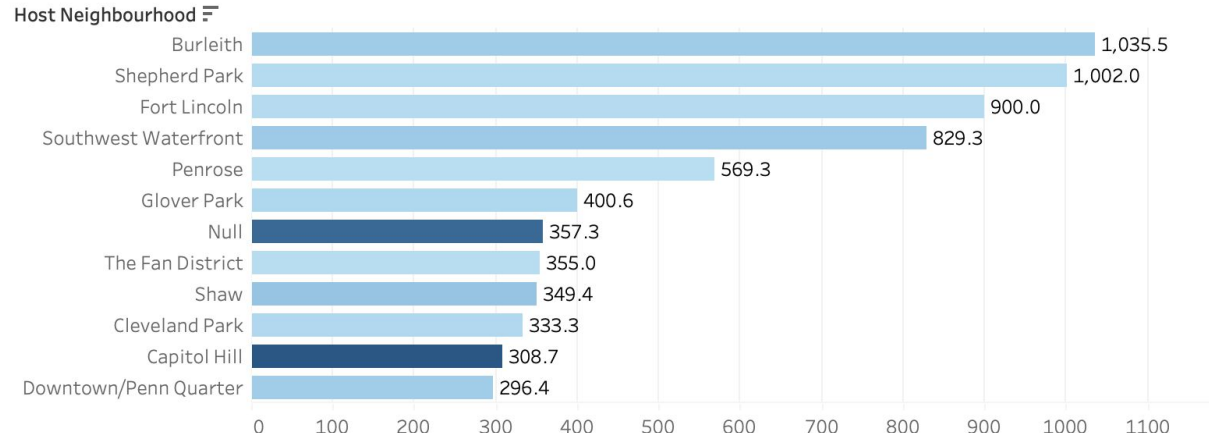
- Some Factors that help ratings

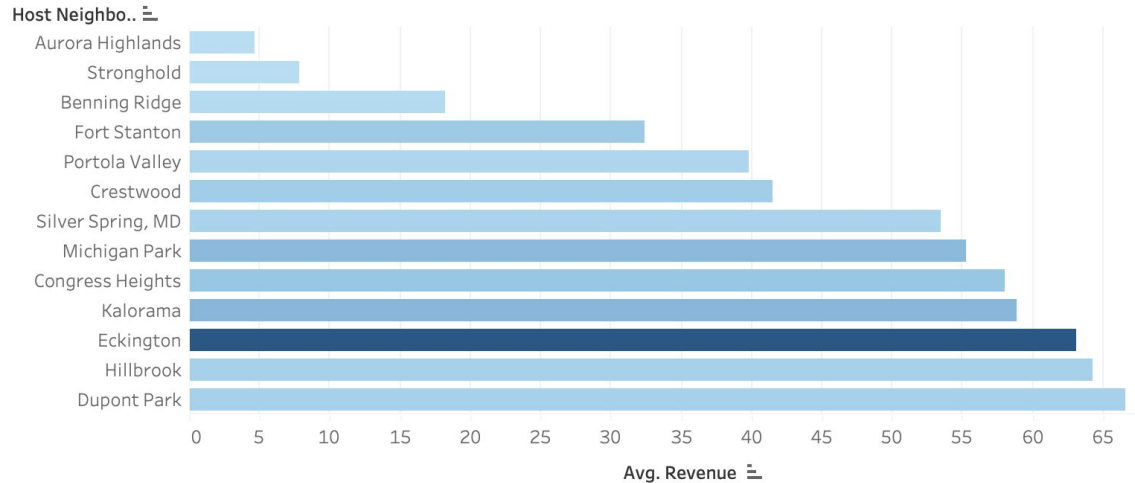## Review Score rating by Property Type

**Property Type**

| Property Type | Count of Review Scores Rating | Avg. Review Scores Rating |
|---|---|---|
| Entire rental unit | 1,871 | 4.7375 |
| Entire home | 567 | 4.7539 |
| Private room in home | 482 | 4.7120 |
| Entire guest suite | 454 | 4.8428 |
| Entire townhouse | 437 | 4.7755 |
| Entire condo | 404 | 4.7058 |
| Private room in townhou.. | 242 | 4.7333 |
| Entire serviced.. | 207 | 4.5854 |
| Private room in rental unit | 163 | 4.5470 |
| Room in boutiqu.. | 86 | 4.4562 |

# Revenue by Neighborhood

- These neighborhoods are the bottom and top twelve based on average revenue earned.

## Top 12

Host Neighbourhood

| Neighbourhood | Value |
|---|---|
| Burleith | 1,035.5 |
| Shepherd Park | 1,002.0 |
| Fort Lincoln | 900.0 |
| Southwest Waterfront | 829.3 |
| Penrose | 569.3 |
| Glover Park | 400.6 |
| Null | 357.3 |
| The Fan District | 355.0 |
| Shaw | 349.4 |
| Cleveland Park | 333.3 |
| Capitol Hill | 308.7 |
| Downtown/Penn Quarter | 296.4 |

0  100  200  300  400  500  600  700  800  900  1000  1100

## Bottom 12

Host Neighbo..

Aurora Highlands
Stronghold
Benning Ridge
Fort Stanton
Portola Valley
Crestwood
Silver Spring, MD
Michigan Park
Congress Heights
Kalorama
Eckington
Hillbrook
Dupont Park

0  5  10  15  20  25  30  35  40  45  50  55  60  65

Avg. Revenue

# Reason(s) for Low Revenue

- Inconvenient location
- Crime rate
- Sightseeing

**Property Crime Rate Over Time**



Legend:
- Washington (blue)
- National (yellow)
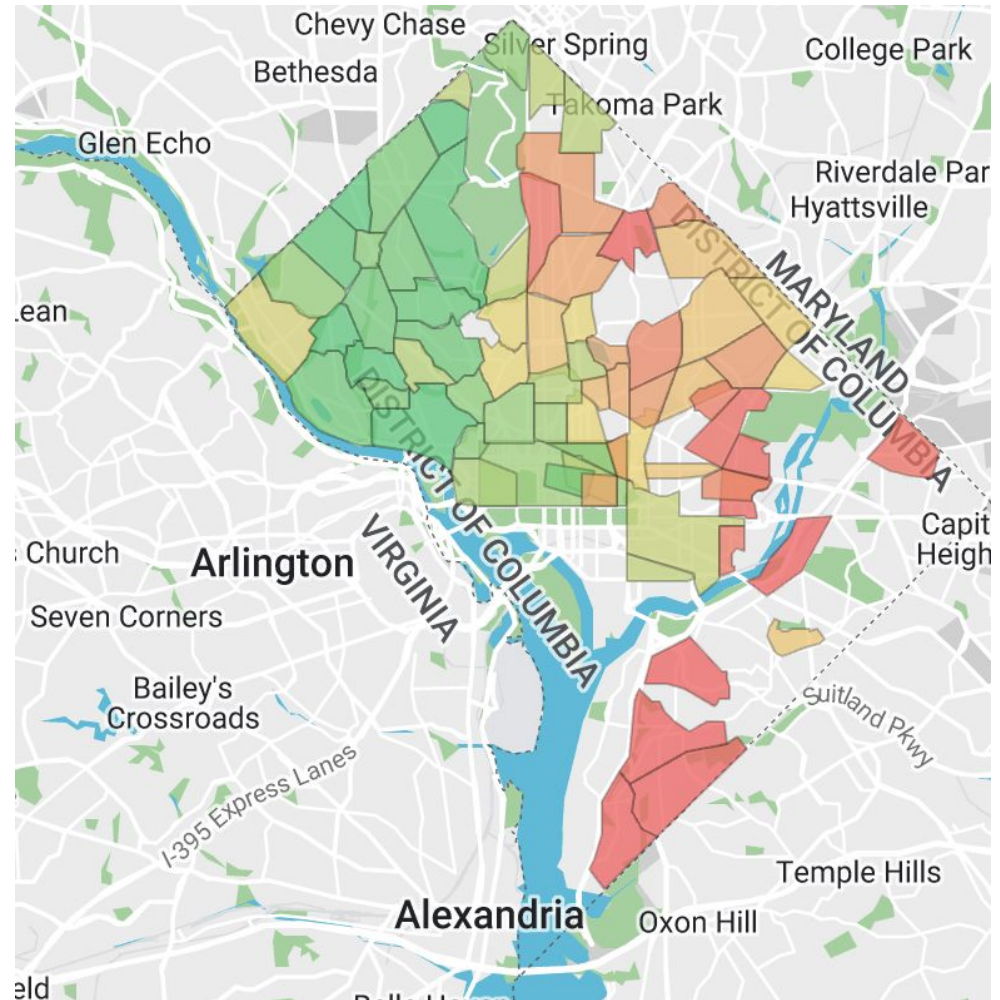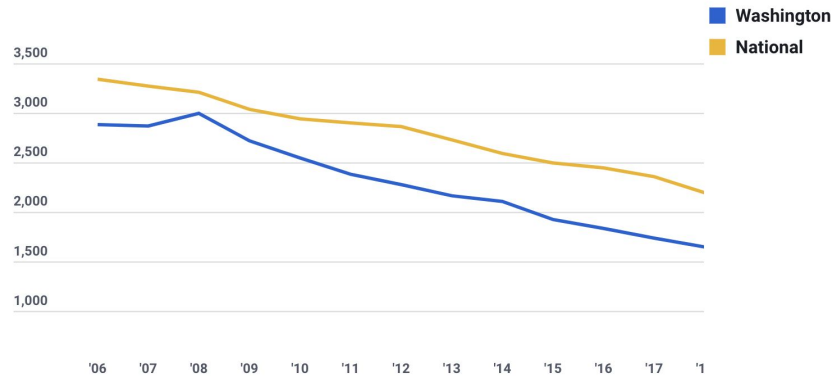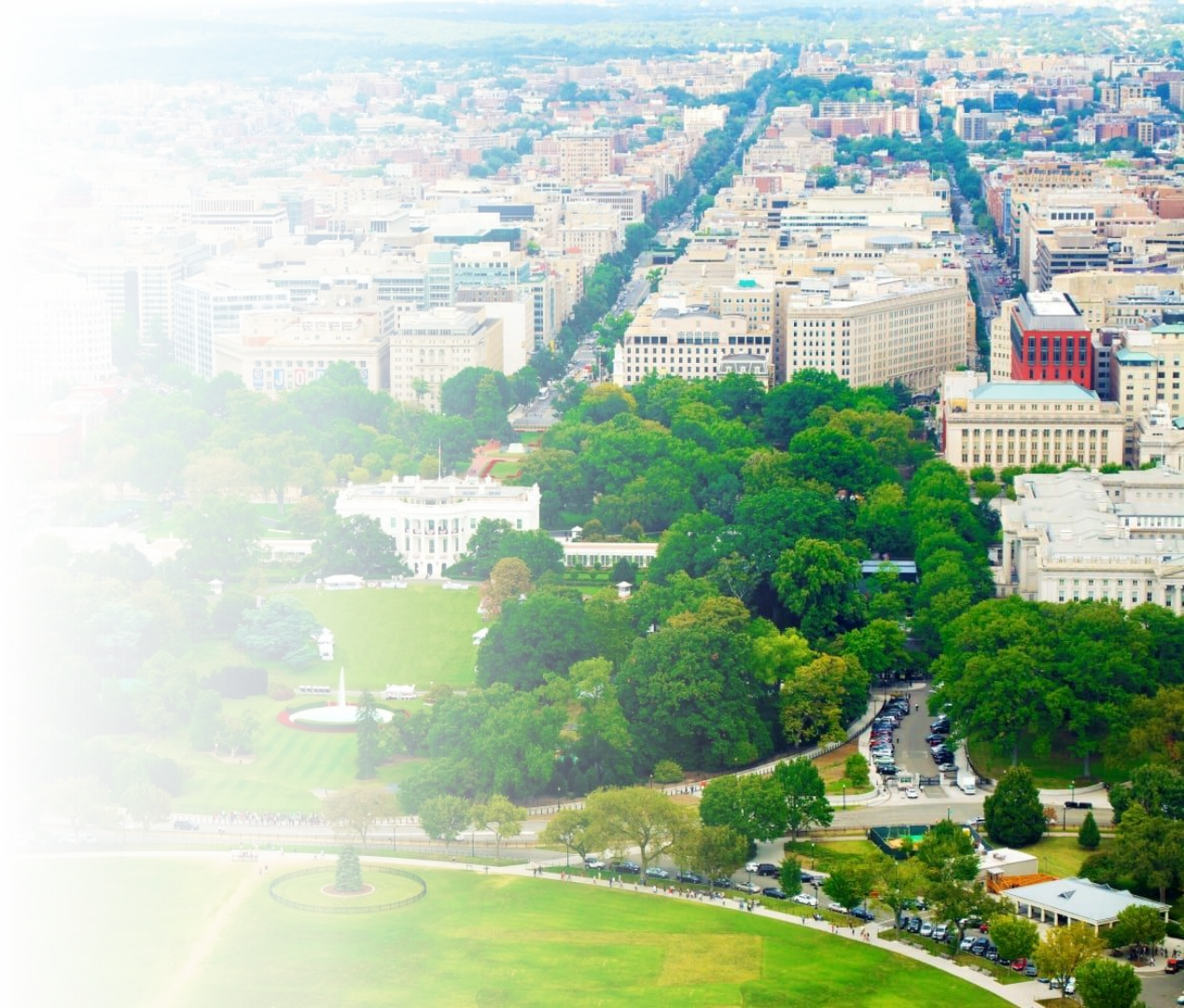
# Proposed Action

Communities with the lowest revenue are linked to the property with the lowest review scores. They are all located in areas with high rates of violent and property crime. Due to burglary being more common than violent crimes like aggravated assault, it would be advisable to use a smart lock.
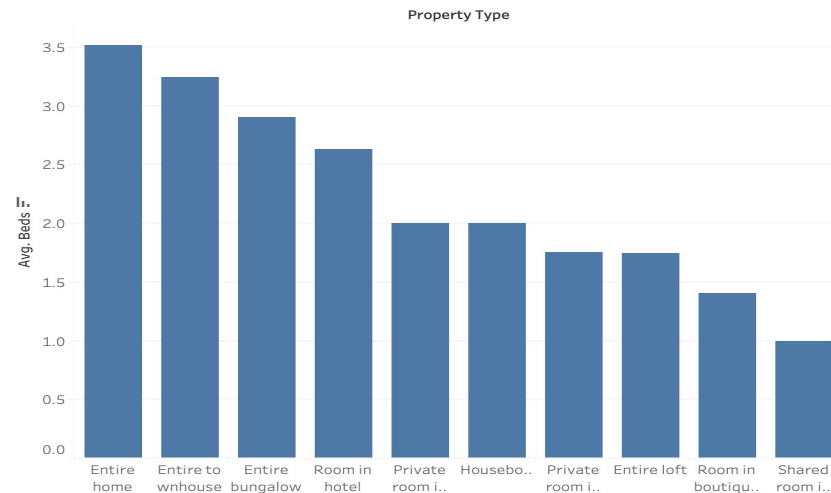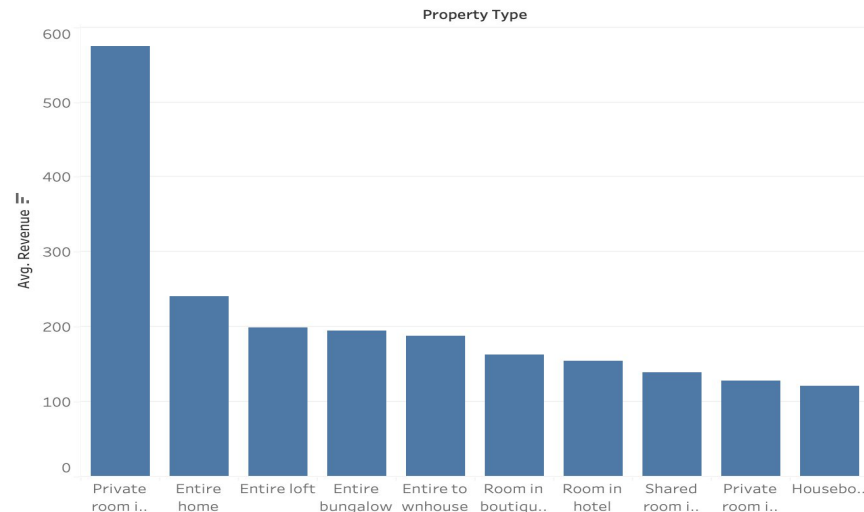
# Property Revenue by Average Beds

Dataset 1: Property Type by Average Revenue

Dataset 2: Property Type by Average Beds

- From the dataset above we can generally see that the property types that have a high average revenue also have the higher average amount of beds.

# Property Type by Average Price

- Based on a similar set of data we can see that the property types which have the highest revenue also have a corresponding price.

- The price looks to follow the patterns as does the average amount of beds that a property has.
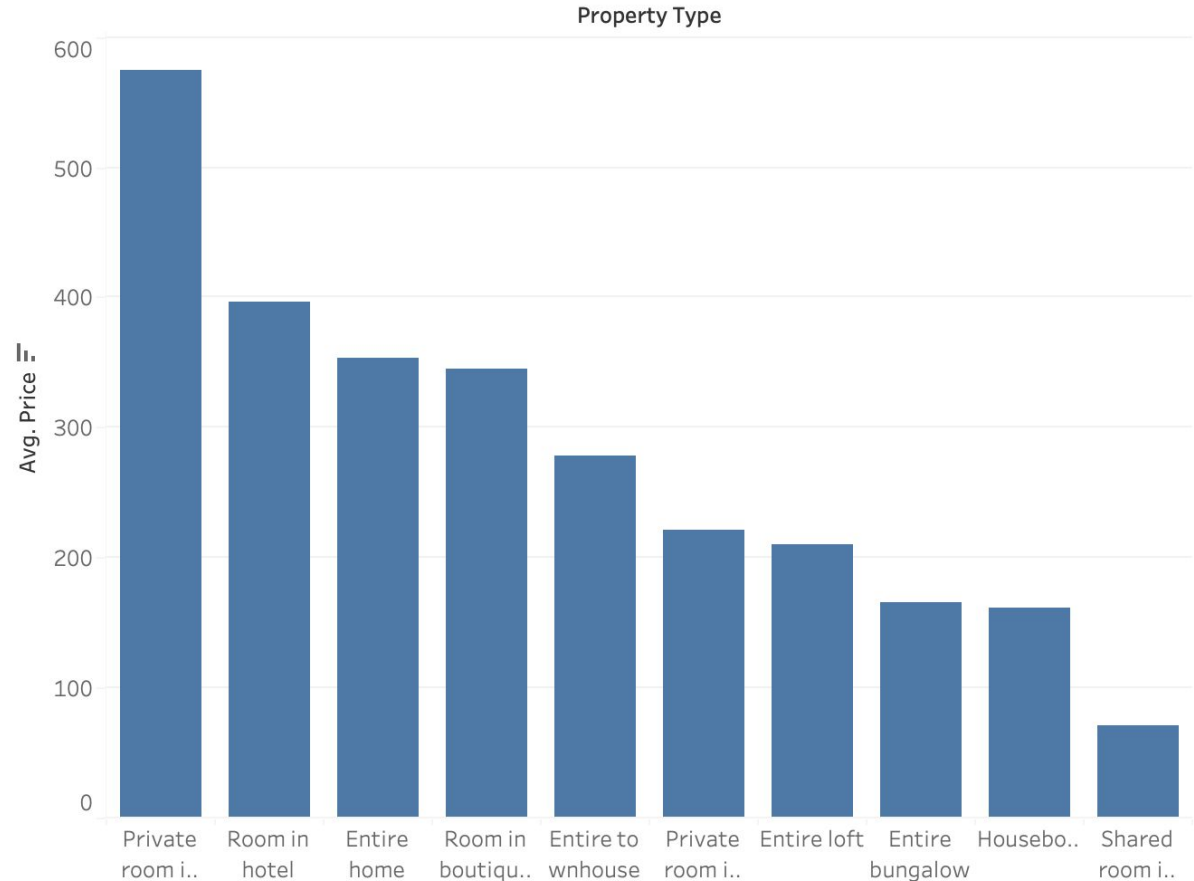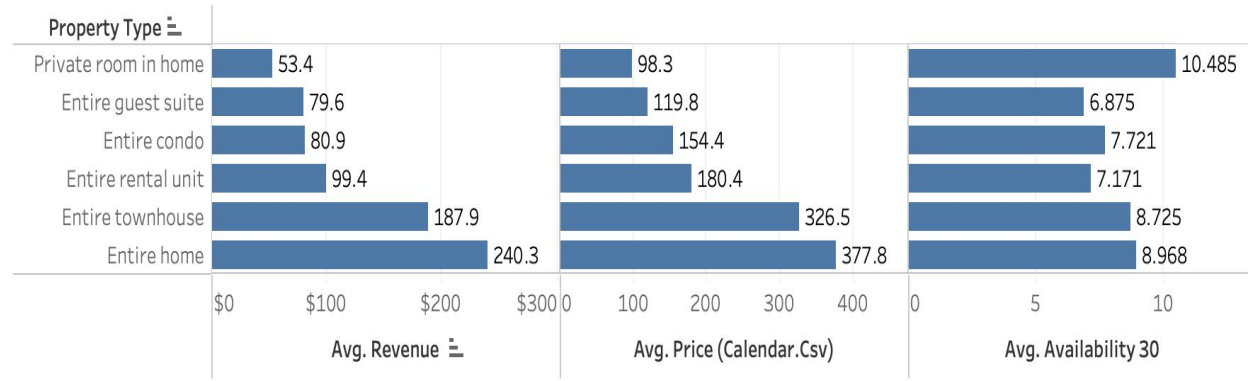


Property Type

# Proposed Action

- Based on the data in the previous two slides, the more beds there are, the higher the price is for the property type.

- A proposed action would be to include an extra bed in properties with "Entire" in their description and make an exception to the "Private" types.

# Overall Impact



- For every bed provided the price of the property type would increase by $88.

- There is a logical reason for this since such big property types are quite popular based on their low availability

- This would increase the average revenue of properties by $3,692.05

# External Data Source:

[http://insideairbnb.com/get-the-data/](http://insideairbnb.com/get-the-data/)