



# Boston Airbnb Analysis



Anna Carolina C. Medinaceli

# Background

- The main goal of this presentation is to inform the results of Boston Airbnb Listings analysis and our recommendations
- The analysis was based on 3 data sets extracted on September 2016 from Airbnb website:
  - Listing.csv – a summary of Boston listings
  - Calendar.csv – contains price and accommodation availability till next year (September 2017)
  - Reviews.csv – contains reviews 'details as date and comments



Where  
to invest?





# Boston City Overview

According to US Census Bureau by 2020 Boston will be the **21<sup>st</sup> city in population** – 701,984  
Density of 5,606/km<sup>2</sup>

Boston has numerous attractions:

- Fenway Park
- TD Gardens
- Freedom Trail
- New England Aquarium
- Quincy Market
- Museum of Science
- Museum of Fine Arts
- Charles River Esplanade



# Boston Tourism Overview

YTD Sep/2016

Domestic			
Total Flights		Total Passengers	
235,572	+3,6%	22,218,720	+6,3%

International			
Total Flights		Total Passengers	
38,165	+19,1%	5,069,872	+19,5%

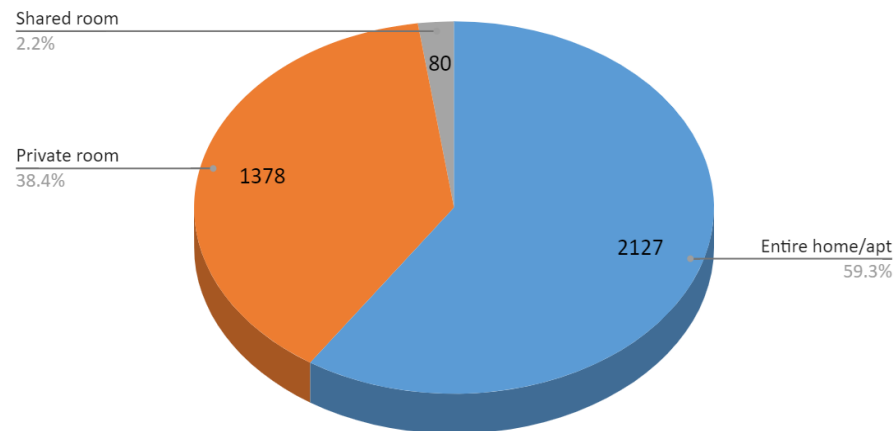
Europe: 60.5%  
Canada: 14.3%



Source: Boston-Logan International Airport Monthly Airport Traffic Summary - September 2016

# Boston Airbnb Listing

## Overview

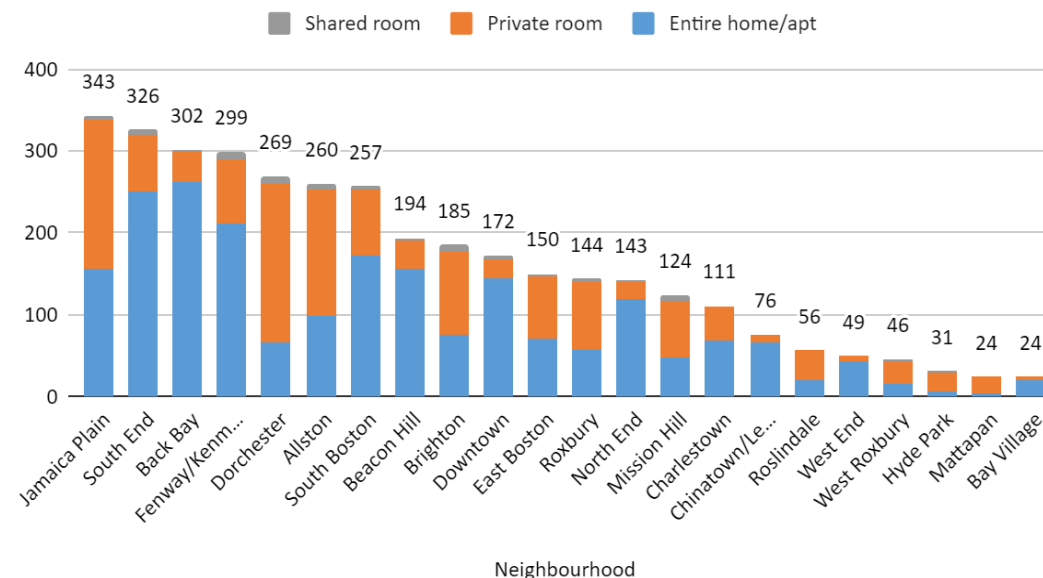


... 57% of them are concentrated in 6 neighbourhoods: Back Bay, South End, Fenway, South Boston, Jamaica Plain and Beacon Hills

Time Period	Total Listings
09/2016-09/2017	3,585

Around 60% of the Boston listings is entire home/apartments...

Room Types per Neighbourhood





# Boston Airbnb Listing

## Top 3 Neighbourhoods in Listings

### ③ Back Bay (302 listings)

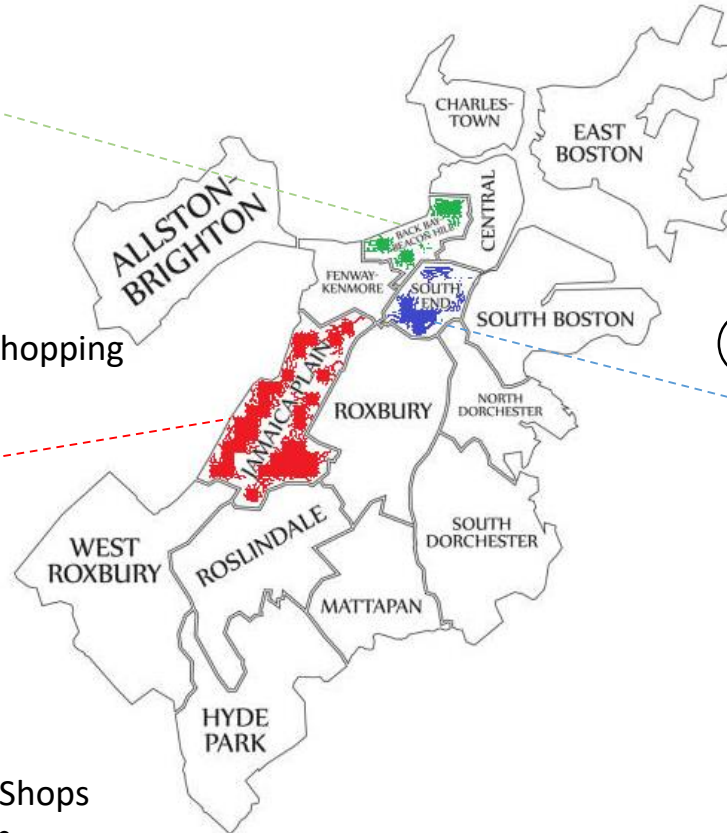


- Newbury St.
- Bay / Park
- Location
- Historic
- Copley Square
- Restaurants / Shopping

### ① Jamaica Plain (343 listings)



- Quiet
- Convenient
- Beautiful
- Downtown
- Restaurants / Shops
- Transportation



### ② South End (326 listings)



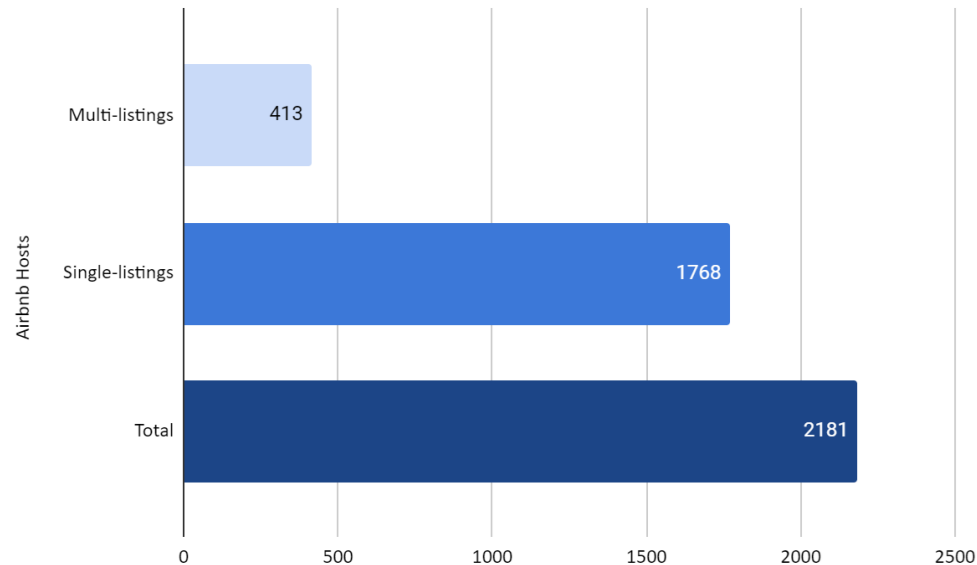
- Modern
- Bay
- Restaurants
- Art
- Copley Square



Boston Hop-On Hop-Off Bus Map

# Boston Airbnb Listing

## Hosts



Time Period	Total Hosts
09/2016-09/2017	2,181

There are a total of 2,181 hosts where:

- 67% joined Airbnb over the past 3 years
- 19% have multiple listings\*
- 12% are superhosts

### Requirements

- Completed at least 10 trips OR completed 3 reservations that total at least 100 nights
- Maintained a 90% response rate or higher
- Maintained a 1% percent cancellation rate (1 cancellation per 100 reservations) or lower
- Maintained a 4.8 overall rating (this rating looks at the past 365 days of reviews, based on the date the guest left a review, not the date the guest checked out)

Source: Airbnb Boston - September 2016

\* may list separate rooms in the same apartment or multiple entire properties



# Boston Airbnb Analysis

## Assumptions



The listings was grouped in  
**22 neighbourhoods**  
(Mid-Dorchester is  
included in Dorchester)



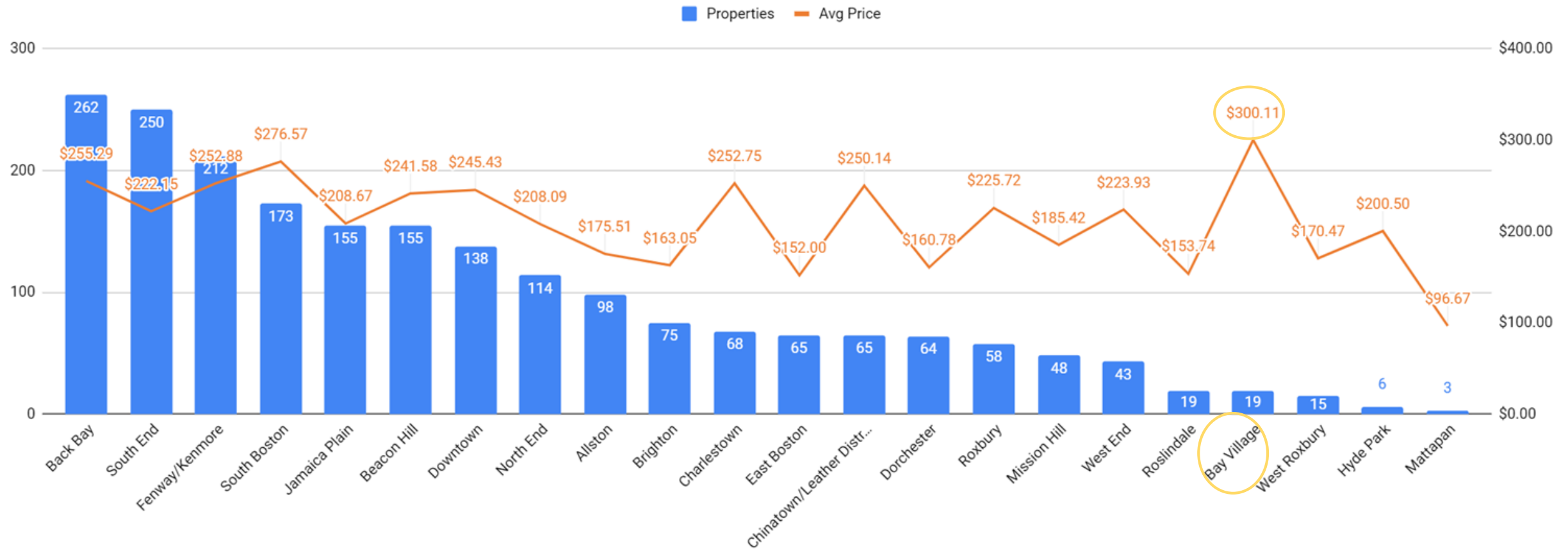
Our analysis was restricted to  
**Entire home/apt**



**Missing information &  
outliers were excluded**  
from our analysis

# Boston Airbnb Analysis

Properties & Price/Night per Neighbourhood



Source: Airbnb Boston - September 2016

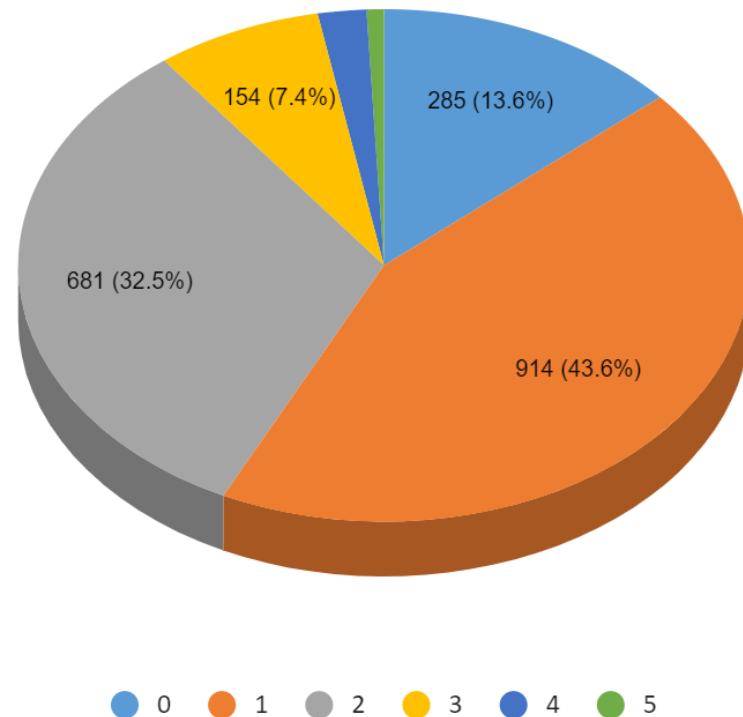
\* Property\_Type included: Apartment, Condominium, House, Loft and Townhouse

\* Property\_Type excluded: B&B, Boat, Others, Camper/RV, Dorm, Entire Floor and 'Blanks'

# Boston Airbnb Analysis

## Properties vs Bedrooms

No of Properties vs. No of Bedrooms



neighbourhood_group_clean	0	1	2	3	4	5	Grand Total
Back Bay	60	117	70	12			259
South End	57	116	61	8	1	1	244
Fenway/Kenmore	27	114	71				212
South Boston	11	73	63	20	4	2	173
Jamaica Plain	7	42	64	21	18	3	155
Beacon Hill	38	78	30	3	4	1	154
Downtown	19	64	50	5			138
North End	8	61	42	3			114
Allston	17	39	28	10	2	2	98
Brighton	6	36	20	10	1	2	75
Charlestown	5	28	21	11	3		68
East Boston	5	29	24	5	2		65
Chinatown/Leather District	4	27	31	2	1		65
Dorchester	1	11	29	17	3	3	64
Roxbury	9	19	15	13	2		58
Mission Hill	4	26	15	1	1	1	48
West End	1	18	21	3			43
Roslindale	3	4	7	4	1		19
Bay Village	1	8	9	1			19
West Roxbury	1	3	7	3		1	15
Hyde Park		1	1	2	2		6
Mattapan	1		2				3
Grand Total	285	914	681	154	45	16	2095

Source: Airbnb Boston - September 2016

\* Property\_Type included: Apartment, Condominium, House, Loft and Townhouse

\*Property\_Type excluded: B&B, Boat, Others, Camper/RV, Dorm, Entire Floor and 'Blanks'


\* Properties which 'Bedrooms' field was 'Blank' were excluded from this analysis



# Boston Airbnb Analysis

## Bedrooms vs Price vs Price Variation

neighbourhood	0	1	2	3	4	5
Back Bay	\$164	\$233	\$329	\$511		
South End	\$153	\$197	\$271	\$527	\$600	\$1,300
Fenway/Kenmore	\$148	\$251	\$296			
South Boston	\$193	\$216	\$320	\$352	\$435	\$500
Jamaica Plain	\$116	\$131	\$184	\$300	\$381	\$361
Beacon Hill	\$161	\$232	\$269	\$498	\$660	\$849
Downtown	\$184	\$234	\$278	\$306		
North End	\$170	\$184	\$247	\$258		
Allston	\$120	\$127	\$218	\$245	\$475	\$359
Brighton	\$99	\$128	\$174	\$252	\$450	\$298
Charlestown	\$179	\$195	\$275	\$360	\$358	
East Boston	\$137	\$106	\$206	\$140	\$240	
Chinatown/Leather District	\$141	\$219	\$287	\$251	\$375	
Dorchester	\$129	\$118	\$151	\$180	\$172	\$307
Roxbury	\$178	\$147	\$221	\$355	\$388	
Mission Hill	\$96	\$170	\$224	\$275	\$349	\$100
West End	\$99	\$196	\$245	\$281		
Roslindale	\$106	\$114	\$173	\$190	\$175	
Bay Village	\$170	\$193	\$401	\$375		
West Roxbury	\$137	\$109	\$153	\$239		\$300
Hyde Park		\$85	\$160	\$210	\$269	
Mattapan	\$75		\$108			



neighbourhood	0	1	2	3	4	5
Back Bay		42.76%	40.72%	55.45%		
South End		28.62%	37.48%	94.66%	13.91%	116.67%
Fenway/Kenmore		69.55%	17.91%			
South Boston		12.36%	47.83%	10.17%	23.53%	14.76%
Jamaica Plain		13.05%	40.76%	62.47%	27.24%	-5.28%
Beacon Hill		43.96%	15.84%	85.14%	32.62%	28.64%
Downtown		26.88%	18.99%	10.26%		
North End		7.95%	34.86%	4.25%		
Allston		5.56%	71.62%	12.68%	93.72%	-24.42%
Brighton		29.17%	35.98%	45.33%	78.36%	-33.89%
Charlestown		9.42%	40.96%	30.75%	-0.51%	
East Boston		-22.43%	93.48%	-32.11%	71.92%	
Chinatown/Leather District		55.62%	31.15%	-12.62%	49.40%	
Dorchester		-8.53%	27.79%	19.17%	-4.47%	78.64%
Roxbury		-17.12%	50.13%	60.47%	9.30%	
Mission Hill		76.90%	31.71%	22.62%	26.91%	-71.35%
West End		98.26%	25.07%	14.34%		
Roslindale		6.97%	5.21%	9.74%	-7.89%	
Bay Village		13.60%	107.81%	-6.56%		
West Roxbury		-20.19%	4.11%	55.99%		
Hyde Park			88.24%	31.25%	28.10%	
Mattapan						

Source: Airbnb Boston - September 2016

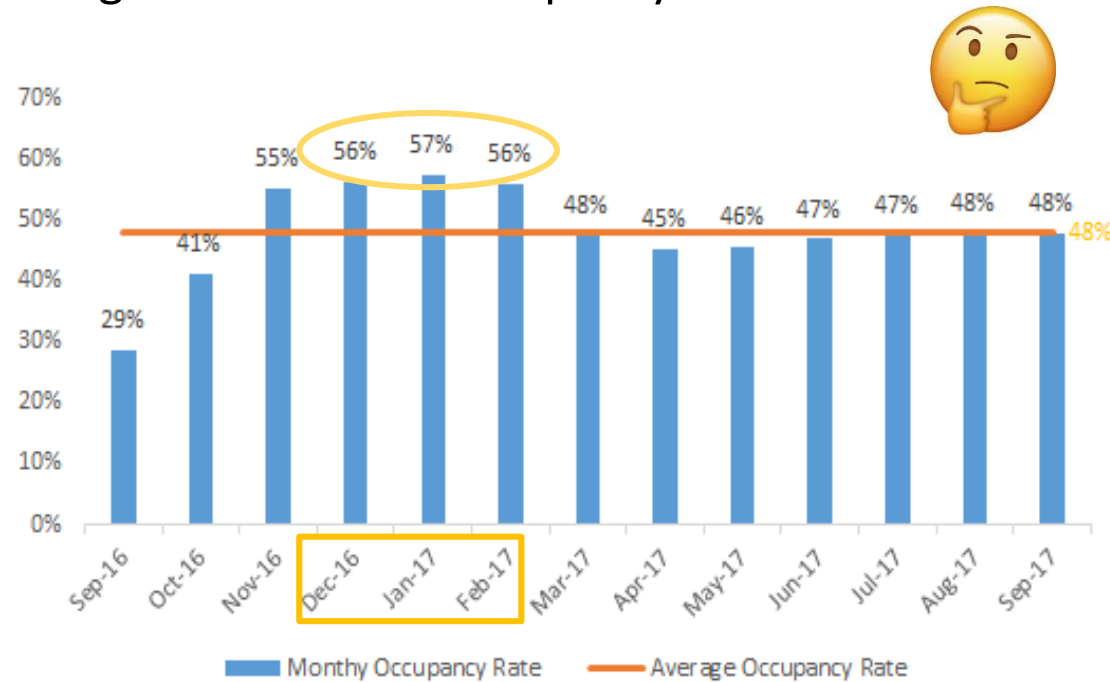
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\* Properties which 'Bedrooms' field was 'Blank' were excluded from this analysis

# Boston Airbnb Analysis

## Neighbourhood vs Occupancy rate



**48%** is Boston average occupancy rate

Source: Airbnb Boston - September 2016 (Calendar)

\* Property\_Type included: Apartment, Condominium, House, Loft and Townhouse

\*Property\_Type excluded: B&B, Boat, Others, Camper/RV, Dorm, Entire Floor and 'Blanks'

neighbourhood_	Properties	Availability Year	Occupancy Year	% Occupancy
Bay Village	19	6935	4840	70%
West End	43	15695	10172	65%
Roslindale	19	6935	4046	58%
Roxbury	58	21170	11920	56%
Downtown	138	50370	28017	56%
West Roxbury	15	5475	3012	55%
Back Bay	262	95630	52034	54%
Chinatown/Leat	65	23725	12379	52%
Jamaica Plain	155	56575	28335	50%
Brighton	75	27375	13477	49%
East Boston	65	23725	11634	49%
Dorchester	64	23360	11208	48%
South End	250	91250	43290	47%
North End	114	41610	18954	46%
South Boston	173	63145	28266	45%
Charlestown	68	24820	10967	44%
Mattapan	3	1095	480	44%
Fenway/Kenmor	212	77380	33822	44%
Mission Hill	48	17520	7568	43%
Beacon Hill	155	56575	24126	43%
Allston	98	35770	11563	32%
Hyde Park	6	2190	336	15%
Grand Total	2105	768325	370446	48%

Formulas:

Availability = 365(d) \* No. of properties

% Occupancy = Occupancy / Availability

# Boston Airbnb Analysis

## Neighbourhood vs Occupancy rate

Neighbourhood	Sep-16	Oct-16	Nov-16	Dec-16	Jan-17	Feb-17	Mar-17	Apr-17	May-17	Jun-17	Jul-17	Aug-17	Sep-17	Year OR
Bay Village	32%	67%	79%	82%	76%	76%	71%	70%	70%	71%	69%	68%	68%	70%
West End	72%	83%	89%	87%	81%	77%	50%	46%	48%	49%	49%	51%	49%	65%
Roslindale	34%	37%	64%	71%	63%	65%	59%	62%	62%	63%	58%	58%	58%	58%
Roxbury	25%	37%	62%	65%	66%	67%	60%	58%	58%	58%	56%	58%	59%	56%
Downtown	31%	44%	64%	62%	64%	64%	55%	53%	54%	55%	56%	57%	58%	55%
West Roxbury	30%	28%	61%	60%	59%	60%	60%	60%	59%	60%	60%	60%	60%	55%
Back Bay	32%	49%	59%	64%	65%	62%	55%	52%	51%	53%	54%	55%	54%	54%
Chinatown	62%	79%	85%	80%	77%	68%	35%	31%	30%	30%	34%	34%	34%	53%
Jamaica Plain	18%	27%	45%	52%	58%	61%	56%	51%	54%	56%	57%	58%	58%	50%
Brighton	25%	31%	45%	49%	59%	60%	54%	53%	51%	54%	53%	52%	51%	49%
East Boston	29%	42%	63%	56%	57%	56%	48%	45%	46%	48%	48%	48%	49%	49%
Grand Total	29%	41%	55%	56%	57%	56%	48%	45%	46%	47%	47%	48%	48%	48%
Dorchester	19%	35%	55%	53%	57%	55%	50%	49%	50%	50%	50%	48%	50%	48%
South End	19%	34%	47%	52%	57%	57%	50%	49%	48%	50%	50%	52%	52%	47%
North End	12%	24%	45%	49%	53%	52%	50%	46%	51%	52%	52%	53%	54%	46%
South Boston	31%	42%	55%	57%	50%	48%	42%	40%	41%	43%	43%	42%	42%	45%
Charlestown	20%	31%	48%	44%	47%	50%	46%	47%	48%	47%	49%	49%	49%	44%
Mattapan	0%	25%	33%	48%	57%	33%	44%	33%	47%	67%	58%	67%	67%	44%
Fenway	52%	62%	69%	61%	56%	51%	32%	27%	28%	29%	30%	31%	31%	44%
Mission Hill	41%	48%	56%	54%	52%	52%	41%	35%	35%	35%	35%	35%	38%	43%
Beacon Hill	13%	27%	42%	47%	48%	50%	47%	45%	45%	47%	47%	48%	48%	43%
Leather District	27%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%
Allston	22%	29%	41%	38%	40%	38%	31%	30%	29%	30%	30%	29%	28%	32%
Hyde Park	9%	22%	21%	18%	18%	22%	2%	5%	17%	17%	17%	17%	17%	15%

Source: Airbnb Boston - September 2016 (Calendar)

\* Property\_Type included: Apartment, Condominium, House, Loft and Townhouse

\*Property\_Type excluded: B&B, Boat, Others, Camper/RV, Dorm, Entire Floor and 'Blanks'



# Boston Airbnb Analysis

Mortgage Cover



An Airbnb property in Boston should be rented **14,96 days** to cover its monthly mortgage, according Homes.com research

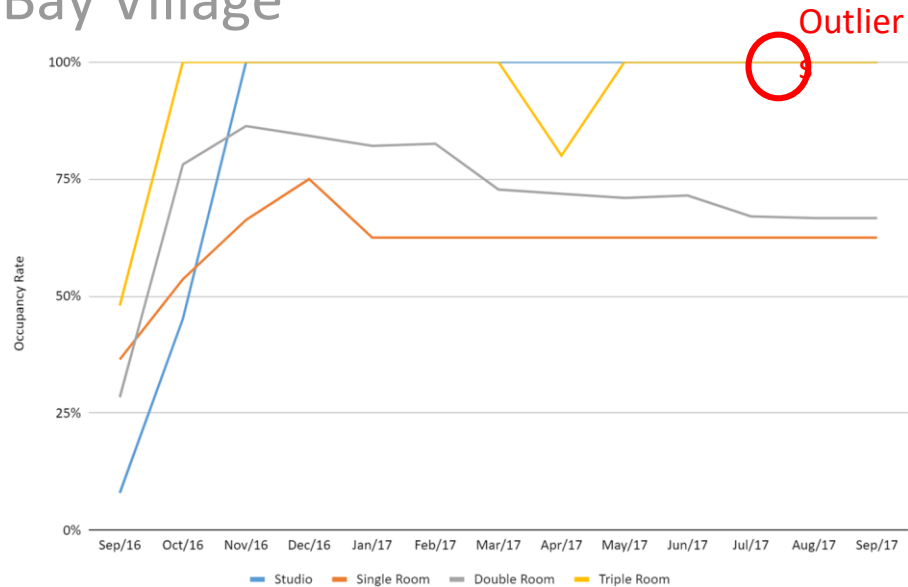
Source: Forbes.com - 27/04/2018

<https://www.forbes.com/sites/meggentaylor/2018/04/27/the-best-and-worst-cities-to-make-money-on-airbnb/#2649b3ea2aa7>

# Boston Airbnb Analysis

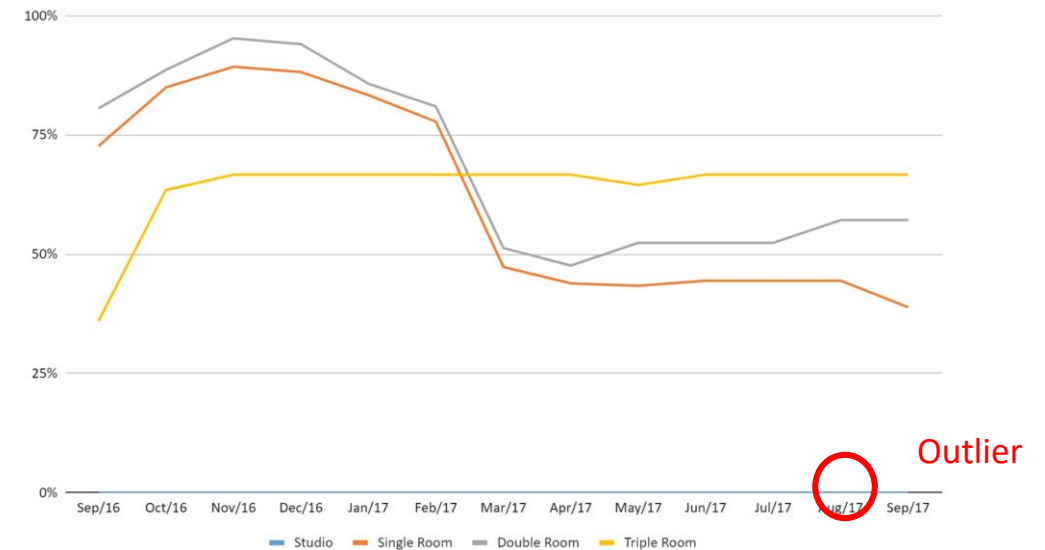
## Bedrooms vs Occupancy rate

### Bay Village



- Double room has 72% yearly occupancy rate and single room has 61%
- Studio and triple room were considered outliers (just 1 unit each)

### West End



- Double room has 69% yearly occupancy rate
- Triple room has 63%
- Single room has 61%
- Studio were considered outlier (just 1 unit)

Source: Airbnb Boston - September 2016

\* Property\_Type included: Apartment, Condominium, House, Loft and Townhouse

\*Property\_Type excluded: B&B, Boat, Others, Camper/RV, Dorm, Entire Floor and 'Blanks'

\* Properties which 'Bedrooms' field was 'Blank' were excluded from this analysis

# Boston Airbnb Analysis

Double room - Property type vs Occupancy rate

## Bay Village

ID	Occupancy	Type	Occupancy Rate
4518380	351	Apartment	96.16%
14365669	351	House	96.16%
475259	348	House	95.34%
12265433	347	Apartment	95.07%
475254	338	House	92.60%
1731639	338	House	92.60%
14731382	163	House	44.66%
13397390	142	Townhouse	38.90%

- 75% of Bay Village properties have more than 92% occupancy rate
- 67% of them are houses

## West End

ID	Occupancy	Type	Occupancy Rate
10051649	365	Apartment	100.00%
965554	364	Apartment	99.73%
1358531	364	Apartment	99.73%
4602191	362	Apartment	99.18%
979759	359	Apartment	98.36%
8814479	359	Apartment	98.36%
12130434	359	Apartment	98.36%
13545648	359	Apartment	98.36%
14423483	357	Apartment	97.81%
14467554	336	Apartment	92.05%
7857318	245	Apartment	67.12%
1867881	184	Apartment	50.41%
7855702	179	Apartment	49.04%
10118716	179	Apartment	49.04%
10118946	179	Apartment	49.04%
10119075	179	Apartment	49.04%
10119193	179	Apartment	49.04%
10119327	179	Apartment	49.04%
12088322	175	Apartment	47.95%
10051842	62	Apartment	16.99%

- 50% of West End properties have more than 92% occupancy rate
- 100% of them are apartments

Source: Airbnb Boston - September 2016

\* Property\_Type included: Apartment, Condominium, House, Loft and Townhouse

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\* Properties which 'Bedrooms' field was 'Blank' were excluded from this analysis



# Boston Airbnb Analysis

Double room - Occupancy rate vs Revenue

## Bay Village

Type	Occupancy Rate	Revenue
Apartment	96.16%	\$65,988
House	96.16%	\$175,500
House	95.34%	\$176,400
Apartment	95.07%	\$138,800
House	92.60%	\$169,000
House	92.60%	\$169,000
House	44.66%	\$55,137
Townhouse	38.90%	\$71,000

## West End

Type	Occupancy Rate	Revenue
Apartment	100.00%	\$125,137
Apartment	99.73%	\$129,786
Apartment	99.73%	\$114,636
Apartment	99.18%	\$142,990
Apartment	98.36%	\$111,290
Apartment	98.36%	\$128,135
Apartment	98.36%	\$127,791
Apartment	98.36%	\$113,085
Apartment	97.81%	\$127,832
Apartment	92.05%	\$92,400

Source: Airbnb Boston - September 2016

\*\* Revenue formula = price per night \* total booked days

\* Property\_Type included: Apartment, Condominium, House, Loft and Townhouse

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\* Properties which 'Bedrooms' field was 'Blank' were excluded from this analysis

# Boston Airbnb Analysis

## Bay Village Home Prices

### Bay Village Market Overview

Data through Feb 29, 2020

Zillow Home Value Index

2 bedroom

1-yr

5-yr

Max

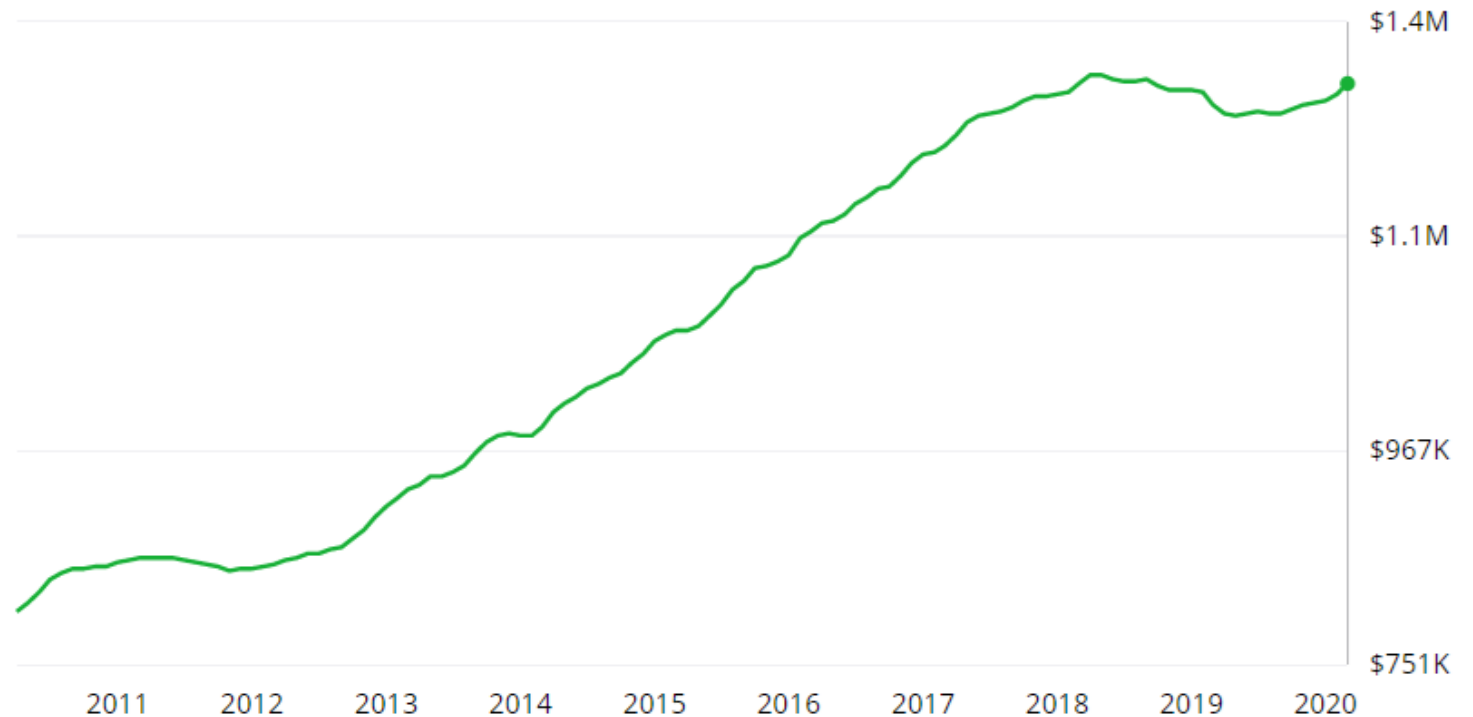
\$1,141,445 ZHVI

4.7% 1-yr forecast (Feb 28, 2021)

No data Median listing price

No data Median sale price

Feb 2020 Bay Village \$1.34M



Source: Zillow.com

ZHVI - The Zillow Home Value Index is the median Zestimate valuation for a given geographic area on a given day.

Forecast - The Zillow Home Value Forecast is Zillow's prediction of what the Zillow Home Value Index will be one year from now.

# Boston Airbnb Analysis

## West End Home Prices

### West End Market Overview

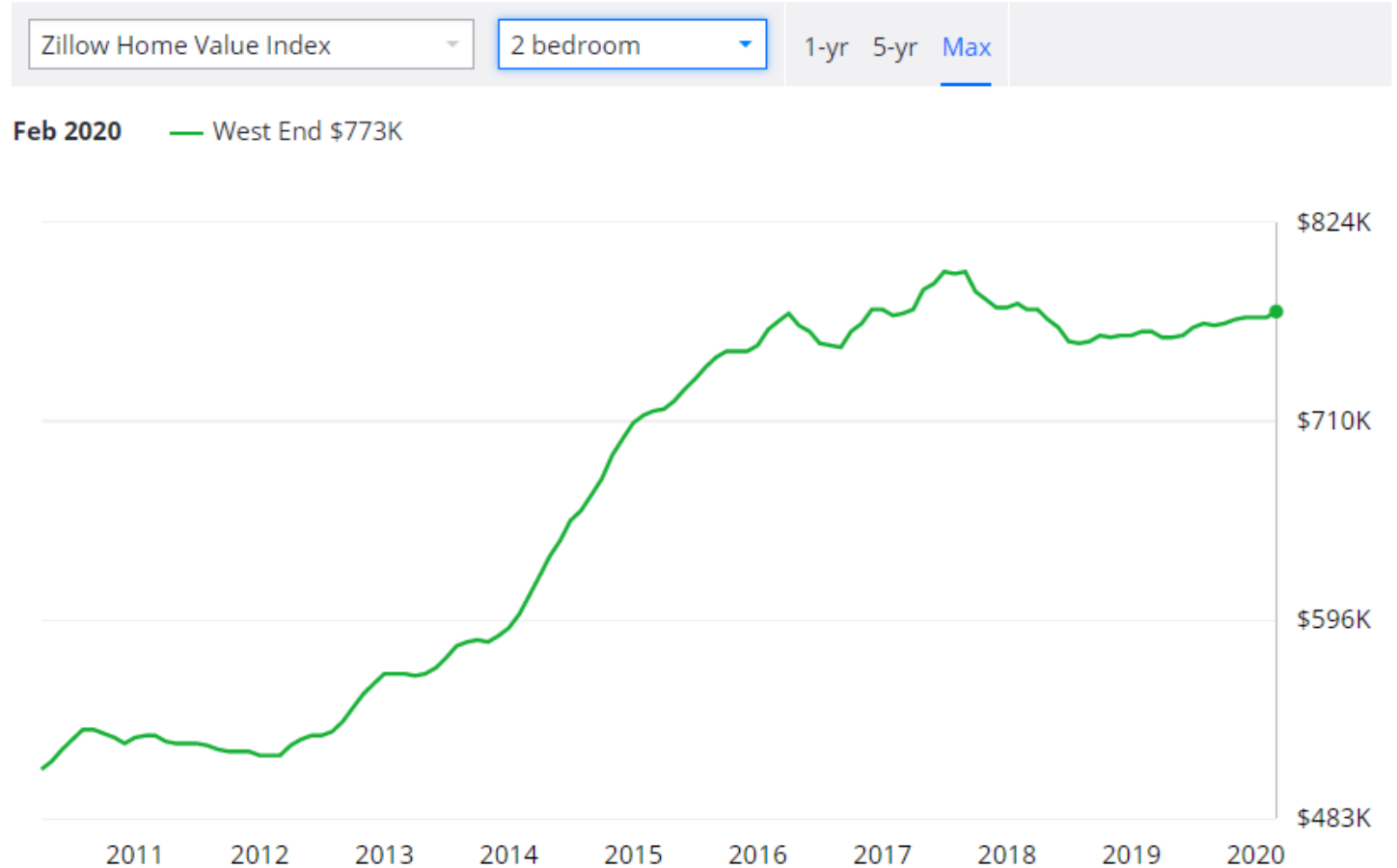
Data through Feb 29, 2020

**\$604,241** ZHVI ?

**↑ 3.7%** 1-yr forecast ? (Feb 28, 2021)

**No data** Median listing price

**No data** Median sale price



Source: Zillow.com

ZHVI - The Zillow Home Value Index is the median Zestimate valuation for a given geographic area on a given day.

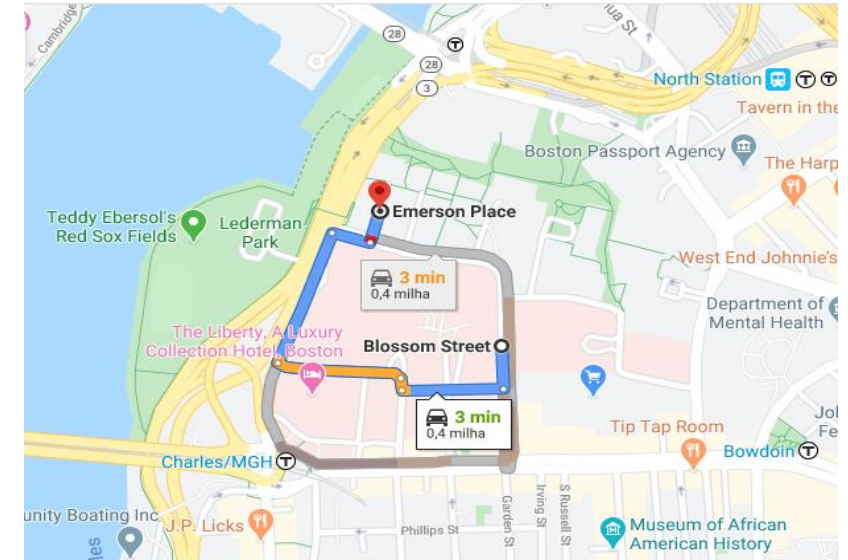
Forecast - The Zillow Home Value Forecast is Zillow's prediction of what the Zillow Home Value Index will be one year from now.

# Boston Airbnb Analysis

## Recommendations

### WEST END

- **2 bedroom apartment** (zone area Emerson Place and Blossom Street)
- **Lower purchase price**
- **Less maintenance:** the body corporate repairs and maintain the common areas and **Security**
- **Convenience** - with quick highway access, not to mention North Station (one of Boston's biggest transportation hubs).
- **Close to Downtown** (Financial District), Massachusetts General Hospital and TD Gardens





An aerial photograph of New York City, showing the Hudson River, the George Washington Bridge, the Lincoln Tunnel, and the New York City skyline. The text "THANK YOU" is overlaid in large, bold, yellow letters across the center of the image.

THANK YOU