

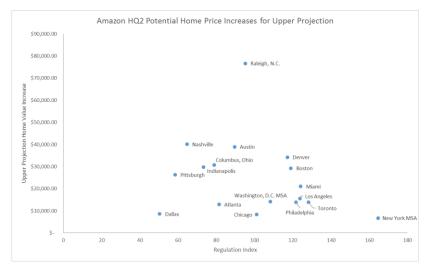
Owners.com Analyzes Amazon HQ2's Potential Impact on Home Values

Owners.com, a technology-enabled real estate brokerage, analyzed data to uncover the potential impact that Amazon's second headquarters (HQ2) may have on the real estate market in the top 20 finalist cities.

To do this, Owners.com data analysts reviewed the potential impact of income, employment and number of households in each city to identify projections on home price increases for each finalist city.

Through its analysis, Owners.com uncovered that:

- Larger cities like New York, Los Angeles, Chicago and Toronto may not see as much of an impact on home values, as they are better able to absorb the influx of employees from a housing perspective. However, there could be an impact on home prices in the immediate vicinity of the headquarters.
- Smaller cities like Indianapolis, Nashville, Raleigh and Pittsburgh could have a much larger impact on home values based on their inability to absorb the new employees.
 However, these areas tend to have lower home prices, so the ultimate effect on home values may not be huge.
- According to the regulation index, some areas like Pittsburgh, Dallas and Nashville, may have a large initial effect on home values, but may quickly adapt because they have fewer delays in the housing permitting process and could bring on new housing supply quickly.





Home Value Projections

City	Median Home Value	Base projection for home price increase	Upper projection for home price increase	Regulation Index
Atlanta	\$186,300	3.8%	6.9%	81
Austin	\$241,100	8.5%	16.1%	90
Boston	\$393,000	3.9%	7.4%	119
Chicago	\$224,300	2.0%	3.7%	101
Columbus	\$166,600	9.9%	18.5%	79
Dallas	\$172,500	2.7%	5.0%	50
Denver	\$314,400	5.8%	10.9%	117
Indianapolis	\$148,000	10.9%	20.2%	73
Los Angeles	\$540,600	1.6%	2.9%	124
Miami	\$241,700	4.8%	8.7%	124
Nashville	\$192,200	11.1%	20.9%	65
New York MSA*	\$414,000	0.9%	1.6%	165
Philadelphia	\$240,900	3.1%	5.7%	122
Pittsburgh	\$143,200	10.0%	18.4%	58
Raleigh	\$226,500	17.7%	33.8%	95
Toronto	\$775,546	1.4%	1.8%	128
Washington, D.C. MSA*	\$401,500	1.8%	3.5%	108

^{*}Due to proximity, New York and Newark were combined into a single location, and Montgomery County MD, Northern Virginia, and Washington DC were combined into a single location based on the Washington D.C. MSA boundary.



Methodology Snapshot

- Owners.com calculated projected price increases for Amazon's 20 finalist cities for its second headquarters based on income, employment and housing stock.
- Data was sourced from government and private sources, and combined with house price sensitivity estimates from a peer reviewed academic journal.
- The regulation index was sourced from a Wharton survey on local housing rules, and uses a normalized version of the Approval Delay Index component from the survey.

Detailed Methodology

Owners.com analyzed the top 20 finalist cities that Amazon is considering for its second headquarters.

Owners.com used three factors to analyze the impact on market prices:

- Income: The increase in average salaries uses a median salary of \$100,000 (according to the <u>Amazon RFP</u>).
 - a. The median salary is \$115,000 for developers, so Owners.com was being conservative using \$100,000
- 2. Employment: Increase in number of employees (50,000 according to the Amazon RFP).
- 3. Housing stock: Increase in number of households, which is proportional to the increase in number of employees. The baseline projection adjusts the available housing stock for new Amazon HQ2 employees based on the share of current households with income exceeding \$75k. The upper projection adjusts the available housing stock for new Amazon HQ2 employees based on the share of current households with income exceeding \$100k, resulting in less available housing stock and a larger increase in prices. These adjustments assume the lower cost housing stock will prove undesirable for higher income employees and/or will experience a proportionate increase in demand from a substantial increase in jobs and income among non-Amazon support and service employers.

These factors were then incorporated into a log-linear predictive model using coefficients derived in a highly cited Peer Reviewed Academic Paper from UC Berkeley.

The median home price data was sourced from the <u>US Census</u> and <u>Data USA</u>. US employment data was sourced from the <u>Bureau of Labor and Statistics</u> (US) and the <u>City of Toronto</u>. The regulation index was sourced from <u>Wharton</u> (US), specifically using the Approval Delay Index



(ADI) component (baselined at 100 for the average across included cities). For Toronto, Owners.com averaged the ADI for the three most proximate US cities (New York City, Boston, and Chicago) based on high levels of urban planning regulation described in Urban Land Magazine and Sina Architectural Design.

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