Philadelphia Property Taxes: Are They Fair?

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Property taxes are an important part of state and local government revenues

Various Local Government Property Tax Revenue, 2017

	Revenue ($B)	% of general revenue
School districts	212	37%
County	120	29%
Municipality	121	24%
Township	34	62%
Special District	22	11%

Source: Urban Institute

Homes in poor neighborhoods are taxed at roughly twice the rate of those in rich areas, study shows

The methods cities use to assess property values skew the final effective tax rates dramatically, according to a review of 26 million home sales

Source: Washington Post

Home ownership can be a way to build wealth through real estate and increase generational wealth.

Property taxes are typically based on property value and tax rate

- However, property values do not always align with market value, and they often jump by orders of magnitude
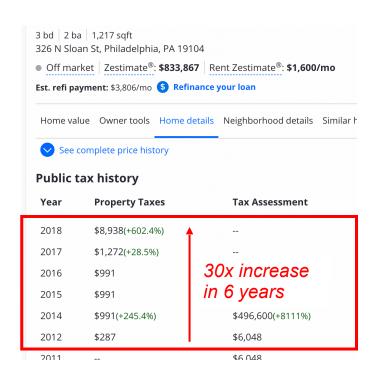- It is not always clear what drives these changes in assessed property values

News

165,000 Philly homeowners may be paying too much in property taxes. Is the city assessing property fairly?
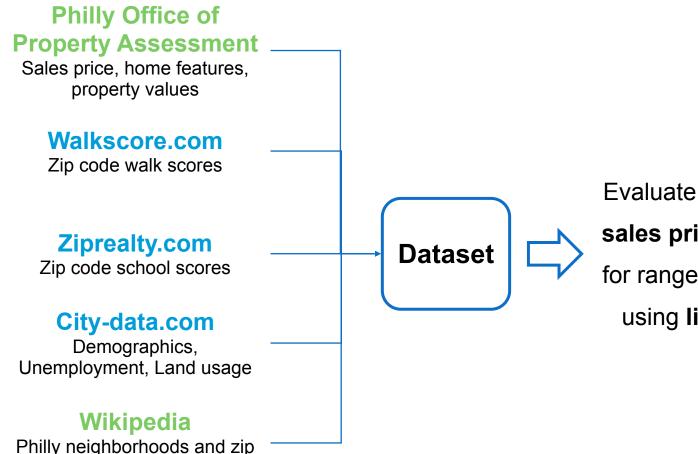
An Inquirer and Daily News analysis of recent assessment and sales data found that assessment inaccuracy for residential properties remains a stubborn problem in Philadelphia.

3 bd | 2 ba | 1,217 sqft
326 N Sloan St, Philadelphia, PA 19104
● Off market | Zestimate®: **$833,867** | Rent Zestimate®: **$1,600/mo**
Est. refi payment: $3,806/mo ⓢ **Refinance your loan**

Home value   Owner tools   Home details   Neighborhood details   Similar h

🔵 See complete price history

Public tax history

Year	Property Taxes	Tax Assessment
2018	$8,938(+602.4%)	--
2017	$1,272(+28.5%)	--
2016	$991	
2015	$991	
2014	$991(+245.4%)	$496,600(+8111%)
2012	$287	$6,048
2011	--	$6,048

30x increase in 6 years

Hence, it is important to study what drives the difference between property values and sales prices

Examined factors driving the ratio of assessed value to sales price by web scraping & running linear regression

Philly Office of Property Assessment
Sales price, home features, property values

Walkscore.com
Zip code walk scores

Ziprealty.com
Zip code school scores

City-data.com
Demographics, Unemployment, Land usage

Wikipedia
Philly neighborhoods and zip codes

Dataset

Evaluate **property value to sales price %** (to normalize for range of sales prices) by using **linear regression**

Resulting regression model had R^2 = 0.50

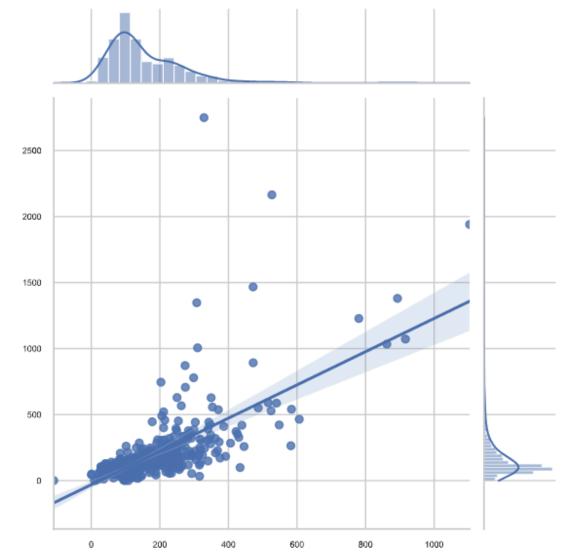| Features include |
|---|
| Number of Rooms |
| General Condition |
| Years Since Last Sale^3 |
| Neighborhoods |
| House Sales Price Ranges |

Features excluded such as: Walkscore, School Score, Unemployment Rate

Error Metrics	
AME	69.7
RSME	13.0
MSE	169.7

Home sales prices and neighborhoods are the biggest influencing factors in the value to price %

More expensive houses have a lower value to price %

Sales Price $	coef	std err	t	P>|t|
10-50k	0	-	-	-
50-100k	-113.37	7.63	-14.86	0.00
100-150k+	-146.45	9.22	-15.88	0.00
150-200k	-169.59	10.31	-16.45	0.00
200k-500k	-201.29	9.56	-21.07	0.00
500k+	-244.04	14.48	-16.85	0.00

Wide range of value to price % based on neighborhood

Coefficient relative to Center City	Neighborhoods
0 to -50	Far Northeast Philly, Upper Northwest
-50 to -100	Kensington, Lower North, Near Northeast, West Philly
-100 to -150	Olney-Oak Lane, Southwest
Statistically not significant	Manayunk, South Philly

Source: OLS Model

Recommendations

- Re-evaluate criteria set by Philadelphia's 2013 Actual Value Initiative for tax assessed home values

- Check property value predictions for differences by house price and neighborhood in the modeling process

- Create more transparencies in exact calculations

- Create easier process for appeals when miscalculations do happen