

How the accessed
value and crime
affect the housing
value in a
Zestimate.

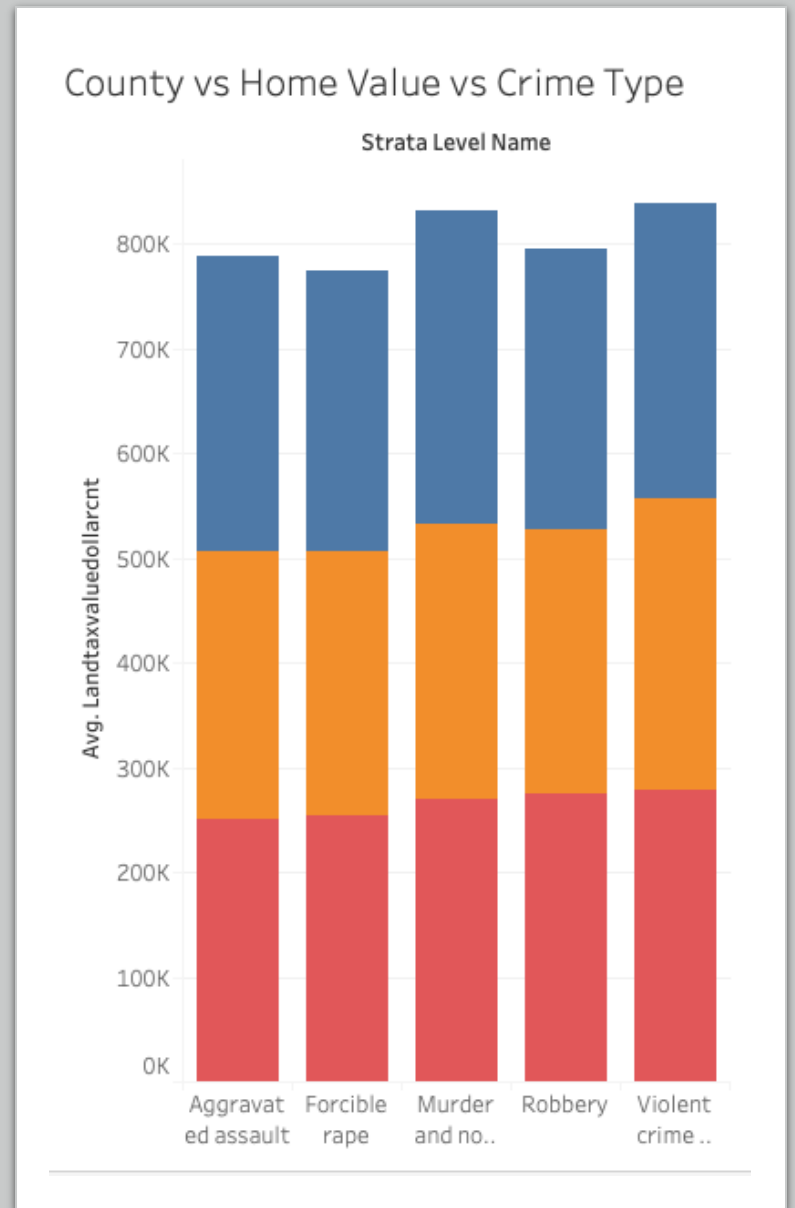
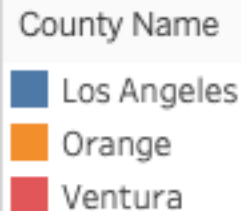




Zestimates

- Zestimates, created with public and user submitted data, are starting points for housing estimate.
- California County Focus:
Los Angeles, Orange, Ventura
- Populations: **Los Angeles** – 4 million
- Populations: **Orange** – 3.19 million
- Populations: **Ventura** – 110,790 thousand

- **Market value** is the estimated amount active buyers would currently be willing to pay for your home.
- **Assessed value** takes the **market value** and puts it in the context of your property taxes.



Regression: Initial R-squared

```
In [20]: #this was final chosen regression excluding the crime rate  
formula = 'structuretaxvaluedollarcnt ~ county_name + poolcnt + hashottuborspa + strata_level_name'  
  
fitted_model = smf.ols(formula=formula, data=zill).fit()  
fitted_model.summary()
```

Out[20]: OLS Regression Results

Dep. Variable:	structuretaxvaluedollarcnt	R-squared:	0.171
Model:	OLS	Adj. R-squared:	0.055
Method:	Least Squares	F-statistic:	1.475
Date:	Thu, 09 Jan 2020	Prob (F-statistic):	0.0156
Time:	17:54:06	Log-Likelihood:	-7248.7
No. Observations:	497	AIC:	1.462e+04
Df Residuals:	435	BIC:	1.488e+04
Df Model:	61		
Covariance Type:	nonrobust		

coef	std err	t	P> t	[0.025	0.975]
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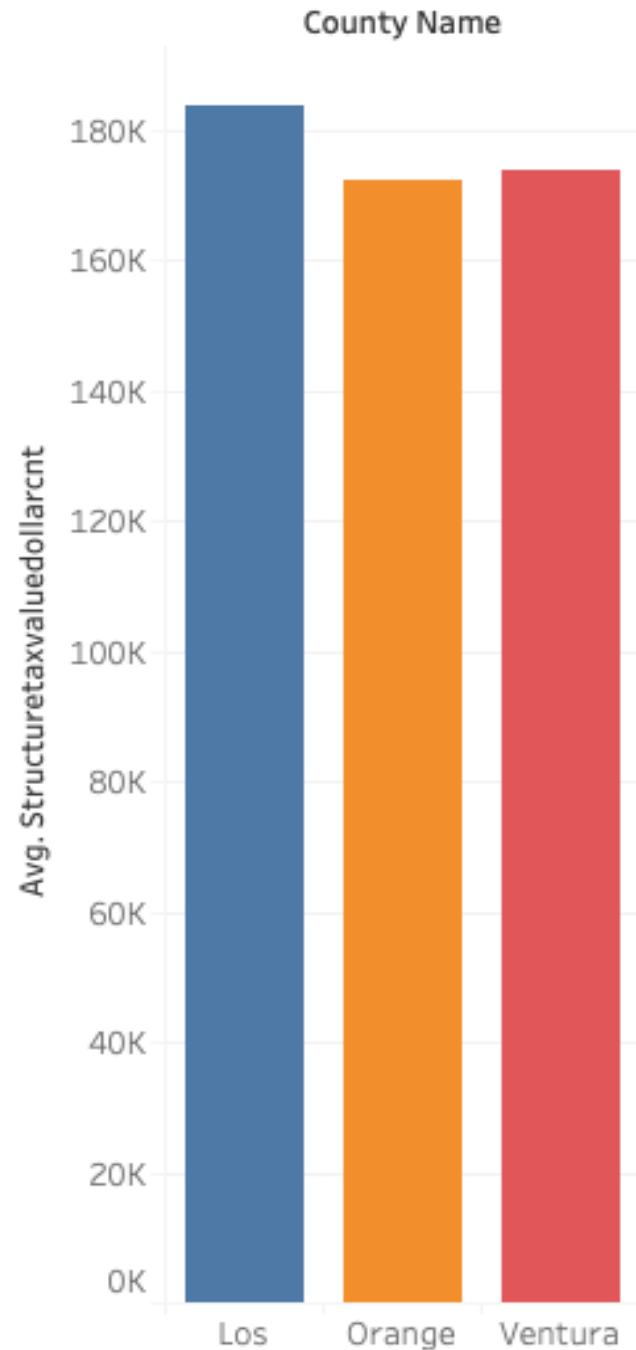
R-square increased when crime rate is added

```
In [19]: #this was final chosen regression including the crime rate  
formula = 'structuretaxvaluedollarcnt ~ rate + county_name + poolcnt + hashottuborspa + strata_level_name'  
  
fitted_model = smf.ols(formula=formula, data=zill).fit()  
fitted_model.summary()
```

Out[19]: OLS Regression Results

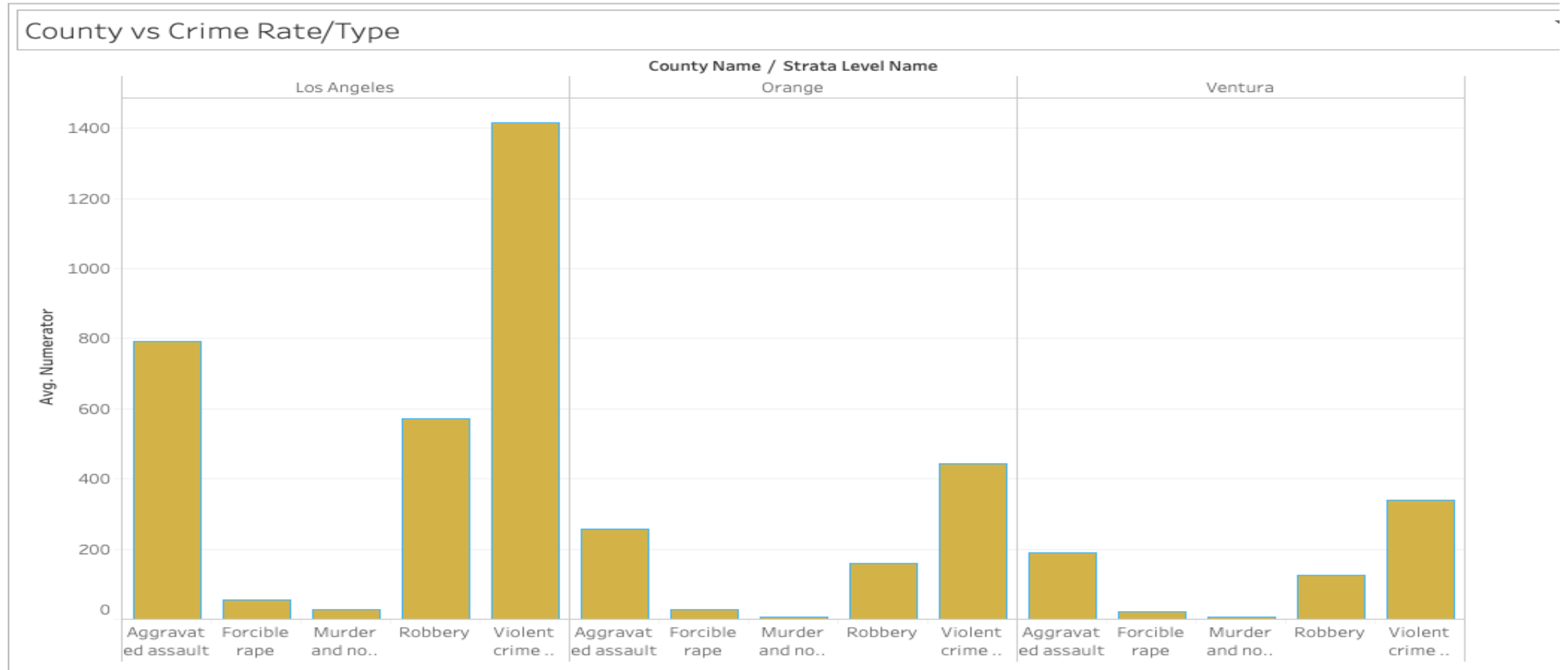
Dep. Variable:	structuretaxvaluedollarcnt	R-squared:	0.224
Model:	OLS	Adj. R-squared:	-0.512
Method:	Least Squares	F-statistic:	0.3048
Date:	Thu, 09 Jan 2020	Prob (F-statistic):	1.00
Time:	17:52:42	Log-Likelihood:	-1094.8
No. Observations:	77	AIC:	2266.
Df Residuals:	39	BIC:	2355.
Df Model:	37		
Covariance Type:	nonrobust		
	coef	std err	t P> t [0.025 0.975]

Assessed Value vs County

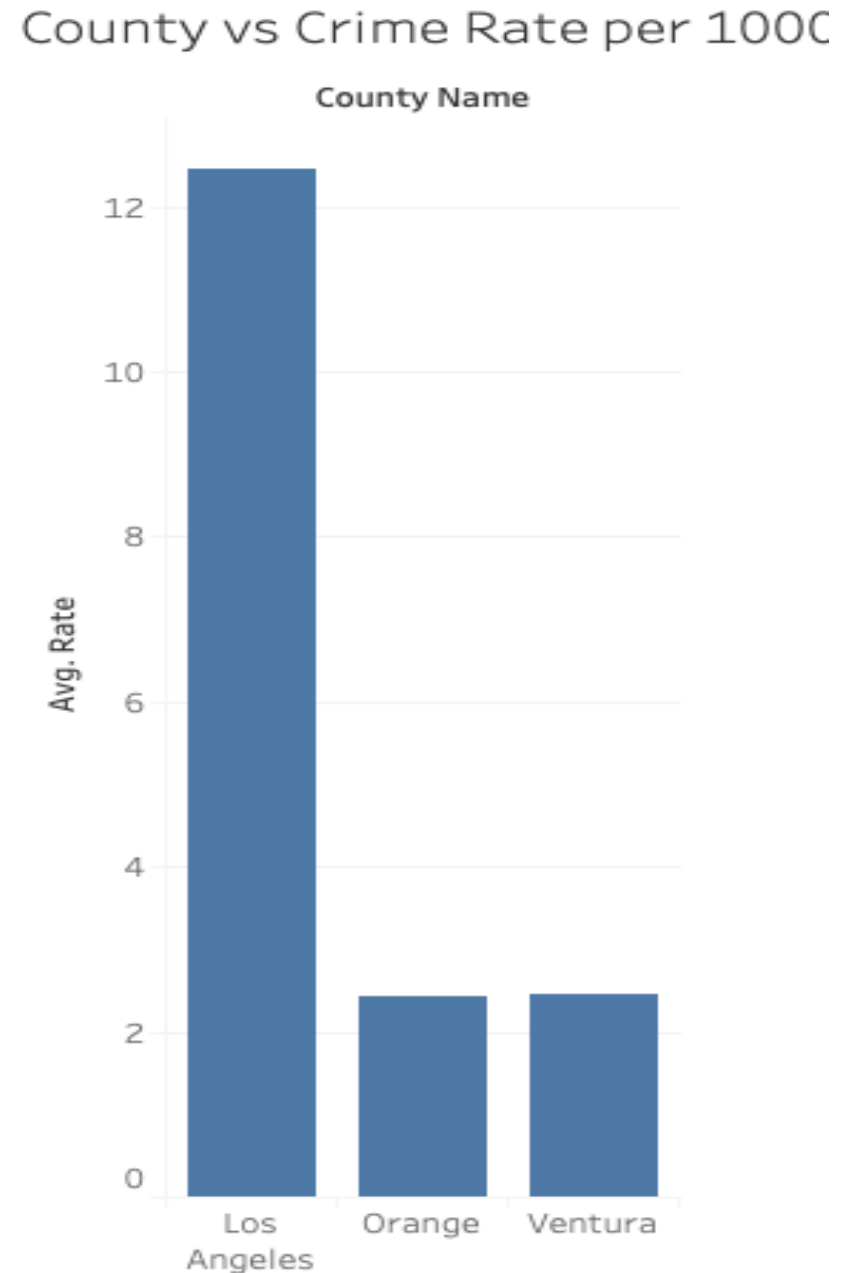


- The average assessed building value is about the same for all 3 counties (Los Angeles, Orange, and Ventura)

County vs Crime Rate vs Type



A drop in consumer interest for home buying and mortgages due to crime increase in these luxury areas, could likely reduce traffic to the site for those particular searches and lead to a drop in ad revenue.

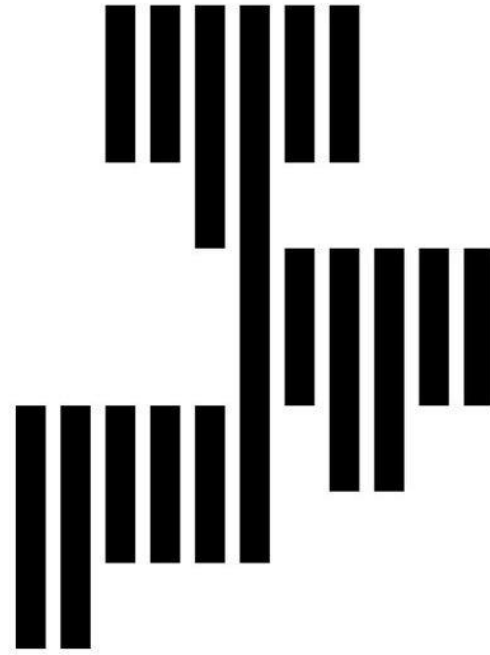




Takeaways

- Crime rate for assessed value of a building does matter
- The accuracy of the Zestimate is important to our business model

Thank You



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Pipeline**



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