

The Impact of Increased Development Fees on Existing Housing: Evidence from South Carolina

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Overview

- In July 2018, Fort Mill (SC) school district raised development fees for new single-family housing from \$2,500 to \$18,158/home
- What happened to single-family housing in the Fort Mill school district?
- Findings:
 - Prices of new housing increased
 - Prices of existing housing decreased
 - Land prices increased
 - No change in weekly changes in listings/sales
 - Monthly inventory increased

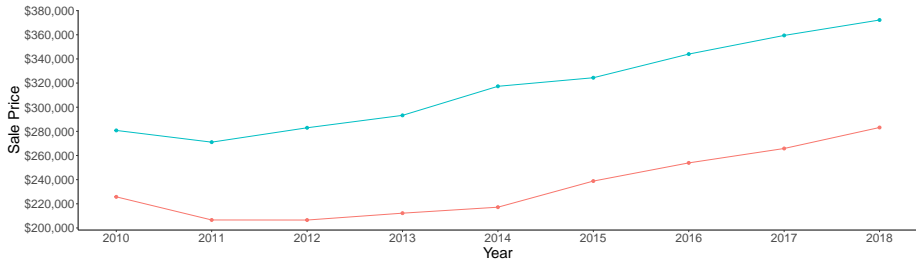
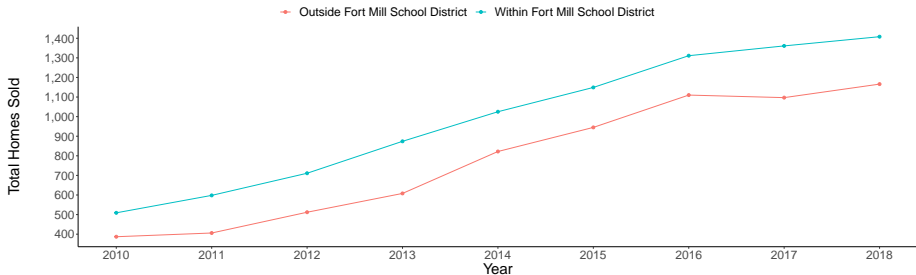
Town Hall Meeting

That's gonna just raise the property value of all those houses as they get built, and so it's actually gonna raise my property value, which is a good thing for me," Knol said. "If it slows the growth a little, so we can catch up, like with the roads, that's a win too, I think.

York County Growth

- In 1996, Fort Mill school district conducted a study that found that they needed to construct 3 new schools by 2020
 - Actually constructed 14 new schools in that time
- Between 2010-2018, Fort Mill school district had an average year-to-year population increase of 6.91%
 - All other school districts within the county had an average year-to-year population increase between 0.72%-4.22%

Home Sales and Home Prices



Previous Literature

- Old view: development fees increase the cost of construction, reduce the quantity of new construction, reduce the value of undeveloped land, and increase the price of existing housing
- New view: development fees reduce the price of new housing because of lower quality but this is offset by new amenities (thus, no net impact on new housing prices) and increase the price of existing homes because of amenity effects

Data

- Use MLS and Metrostudy data from York County South Carolina from 2010-2018
- Both data sets contain the sale price, sale date, address, and other housing characteristics
- MLS contains information on both sold homes as well as homes that listed but did not sell
- Metrostudy contains information on homes for sale by owner and land sales

Summary Statistics

Variables	MLS Property	Metrostudy Property	Land Sales
Total Observations	15,999	26,842	4,785
New Home Sales	2,789	3,703	
Within Fort Mill School District	8,946	9,294	1,420
Sale Characteristics			
Sale Price	\$289,939.57	\$249,877.55	\$194,072.01
Age	14.54	18.14	
Bedrooms	3.65	3.57	
Sqft Finished	2,555.79	2,384.22	
Sqft Lot	0.92	0.80	
Baths Full	2.45	2.35	
Baths Half	0.56	0.51	
DOM	123.74		
List Price	\$297,533.26		

Critical Dates

- Town of Fort Mill **passes** additional development fees of \$1,822.39 on Aug 24, 2015
- Town of Fort Mill **collects** additional development fees of \$1,822.39 on Oct 1, 2015
- Fort Mill school district **passes** the \$18,158 development fee on Jun 27, 2018
- Fort Mill school district **collects** the \$18,158 development fee on Jul 16, 2018
- Housing developers sued the state of South Carolina on Aug 14, 2018, but Fort Mill school district still collects the \$18,158 development fee

Difference-in-Difference

$$Dep_{i,t} = \beta_0 + \alpha_1 FMSD_{i,t} + \sum_{j=1}^5 \delta_j IncreasedPeriod_{i,j,t} + \sum_{j=1}^5 \gamma_j FMSD_{i,t} * IncreasedPeriod_{i,j,t} + \beta \mathbf{X}_{i,t} + L_i + T_t + \epsilon_{i,t}$$

Difference-in-Difference-in-Difference

$$y_{i,t} = \beta_0 + \alpha_1 FMSD_{i,t} + \alpha_2 New_{i,t} + \sum_{j=1}^5 \delta_j IncreasedPeriod_{i,j,t} +$$
$$\sum_{j=1}^5 \theta_j New_{i,t} * IncreasedPeriod_{i,j,t} +$$
$$\sum_{j=1}^5 \gamma_j FMSD_{i,t} * IncreasedPeriod_{i,j,t} +$$
$$\sum_{j=1}^5 \lambda_j FMSD_{i,t} * IncreasedPeriod_{i,j,t} * New_{i,t} +$$
$$\beta \mathbf{X}_{i,t} + L_i + T_t + \epsilon_{i,t}$$

Impact on Home Sales and List Prices:

Variable	Sale Price		List Price
	MLS	Metrostudy	MLS
firstfeepass x fmschools	-0.072** (-2.369)	-0.081*** (-5.838)	-0.056* (-1.780)
firstfeepass x fmschools x new	0.116 (1.631)	0.120*** (5.706)	0.103 (1.366)
firstfeecoll x fmschools	-0.053** (-2.110)	-0.085*** (-4.940)	-0.044* (-1.754)
firstfeecoll x fmschools x new	0.040*** (3.972)	0.118*** (3.381)	0.051*** (6.775)
secondfeepass x fmschools	-0.049 (-1.216)	-0.092*** (-3.203)	-0.025 (-0.599)
secondfeepass x fmschools x new	0.091** (2.032)	-0.060 (-1.113)	0.057 (1.291)
secondfeepasscounty x fmschools	-0.091** (-2.269)	-0.135*** (-3.476)	-0.078* (-1.852)
secondfeepasscounty x fmschools x new	0.020 (1.078)	0.004 (0.521)	0.065** (2.167)
secondfeecoll x fmschools	-0.133*** (-4.316)	-0.170*** (-5.801)	-0.110*** (-3.683)
secondfeecoll x fmschools x new	0.072*** (3.298)	0.032** (1.996)	0.069*** (4.342)
Intercept	5.459*** (17.461)	5.250*** (26.276)	5.787*** (18.560)
Housing Characteristics	Yes	Yes	Yes
R ²	0.765	0.742	0.767
N	15,999	26,842	15,999

Impact on Land Sales and Construction

Variable	Log Sale Price	Weekly Lot Sales	Quarterly Future Inventory
firstfeepass x fmschools	0.239*** (2.603)	-2.054 (-1.255)	
firstfeecoll x fmschools	0.124 (1.497)	-2.267*** (-5.703)	-92.931 (-0.266)
secondfeepass x fmschools	0.697*** (5.564)	-1.569 (-0.586)	-1092.507 (-1.123)
secondfeepasscounty x fmschools	0.029 (0.245)	-7.319*** (-3.850)	
secondfeecoll x fmschools	0.002 (0.011)	-4.644*** (-5.288)	-1526.507 (-1.568)
Intercept	10.493*** (84.818)	3.649*** (5.299)	224.655 (0.917)
R ²	0.437	0.463	0.789
N	4,785	901	144

Impact on Demand

Variable	New Weekly Sales	New Weekly Listings	Cumulative Weekly Listings	DOM
firstfeepass x fmschools	-2.803 (-0.964)	-3.784 (-1.435)	736.392 (1.601)	0.218*** (4.080)
firstfeepass x fmschools x new				0.205 (1.289)
firstfeecoll x fmschools	0.654 (0.790)	1.755** (2.390)	1820.271*** (16.002)	0.167*** (7.620)
firstfeecoll x fmschools x new				0.040 (0.487)
secondfeepass x fmschools	4.900 (0.898)	2.950 (0.595)	2334.475*** (2.950)	0.183*** (3.061)
secondfeepass x fmschools x new				0.278* (1.797)
secondfeepasscounty x fmschools	2.649 (0.647)	-4.157 (-1.119)	1928.475*** (3.435)	0.153*** (3.530)
secondfeepasscounty x fmschools x new				0.550** (2.386)
secondfeecoll x fmschools	-1.910 (-0.941)	-4.005* (-1.907)	2382.075*** (9.243)	0.155*** (3.223)
secondfeecoll x fmschools x new				0.190 (1.414)
Intercept	-5.161*** (-3.492)	-5.395 (-0.982)	7823.758*** (66.622)	1.938*** (3.558)
Housing Characteristics	No	No	No	Yes
R ²	0.681	0.706	0.900	0.095
N	938	1,034	1,404	15,999

Conclusion

- Findings:
 - Prices of new housing increased
 - Prices of existing housing decreased
 - Land prices increased
 - No change in weekly changes in listings/sales
 - Monthly inventory increased
- The results are consistent with the capitalization of expected future tax liabilities in the prices of existing residential properties