

1. Setup

- Sampling: GHS picked a set of 2001 census EAs, then sampled HHs and followed these HHs for 3 (or 4) years, then repeated the process with new EAs. Here are counts for EAs in each round within 4km of projects

1. 2005-2007: 214 EAs
2. 2008-2012: 236 EAs
3. 2012-2014: 333 EAs
4. 2015-2017: 538 EAs

- Empirical strategy:

- $y_{ite} = \beta_0 + \beta_1 post_t + \beta_2 proj_e + \beta_3 post_t X proj_e + \beta_4 spill_e + \beta_5 post_t X spill_e + \delta_p \epsilon$
- e is EA, t is year, i is HH, $post$ is $year \geq 2008$
- δ_p is a project by location (either spill, proj, or outside) fixed effect

- Notes:

- We're essentially picking up the second half of the constructed project effects. Table 1 finds that in project areas, there's about 20% more subsidized housing in 2005-2007, which jumps by 24% in 2008-2017
- I don't do the triple-difference because many of the planned but unconstructed projects may be getting finished over this period (I tried it and got weird results consistent with this theory)
- the **Non-RDP** results limit the sample to **Non-RDP** houses only so we can see what happens to non-project housing quality !
- errors are clustered at project level, also results are weighted by EA area and control for EA area cubic in pre and post periods

2. Results

Table 1. GHS RDP House

	(1) Project House
inside \times post	0.209 ^b (0.096)
0-500m away \times post	0.034 (0.199)
Mean	0.21
R ²	0.63
N	93,620

^c p<0.10,^b p<0.05,^a p<0.01

Table 2. Triple Difference Estimates on Log-Prices (Old version)

	(1)	(2)
All Projects		
inside project	-0.197 (0.222)	-0.186 (0.217)
0-500m outside project	-0.048 (0.061)	-0.044 (0.061)
Lot Size Controls		✓
r2	0.52	0.52
N	67,751	67,751
Greenfield		
inside project	0.118 (0.167)	-0.010 (0.172)
0-500m outside project	0.171 (0.164)	0.185 (0.162)
In-Situ Upgrading		
inside project	0.082 (0.308)	0.142 (0.286)
0-500m outside project	-0.179 ^c (0.091)	-0.177 ^b (0.089)
Other		
inside project	-0.321 (0.274)	-0.280 (0.267)
0-500m outside project	0.045 (0.079)	0.047 (0.079)
Lot Size Controls		✓
r2	0.52	0.52
N	67,751	67,751

Standard errors clustered at the project level in parenthesis.

^c p<0.10, ^b p<0.05, ^a p<0.01

Table 3. Triple Difference Estimates on Log-Prices (New)

	(1)	(2)
All Projects		
inside project	-0.211 (0.226)	-0.213 (0.216)
0-500m outside project	-0.048 (0.053)	-0.035 (0.052)
Lot Size/Year-Month		✓
r2	0.52	0.52
N	67,756	67,756
Greenfield		
inside project	0.247 (0.203)	0.074 (0.160)
0-500m outside project	-0.008 (0.129)	0.016 (0.130)
In-Situ Upgrading		
inside project	0.142 (0.304)	0.174 (0.289)
0-500m outside project	-0.065 (0.069)	-0.054 (0.067)
Other		
inside project	-0.420 (0.269)	-0.361 (0.261)
0-500m outside project	-0.010 (0.076)	0.005 (0.074)
Lot Size/Year-Month		✓
r2	0.52	0.52
N	67,756	67,756

Standard errors clustered at the project level in parenthesis.

^c p<0.10, ^b p<0.05, ^a p<0.01

Table 4. Type of Houses

	Own	Rent-free	For.	Inf. (non-bkyd)	Inf. bkyd	Brick Walls	Wall Qual. (1 to 5)	Tile Roof	Roof Qual. (1 to 5)
All Houses									
inside × post	-0.509 ^a (0.182)	0.397 ^a (0.129)	0.139 (0.157)	-0.205 ^c (0.106)	0.030 (0.030)	0.164 (0.135)	-0.006 (0.138)	-0.059 (0.045)	-0.006 (0.145)
0-500m away × post	-0.181 (0.115)	0.109 ^c (0.057)	0.046 (0.179)	-0.065 (0.133)	0.058 (0.068)	0.112 (0.136)	0.100 (0.258)	-0.116 ^b (0.049)	0.046 (0.287)
Mean	0.52	0.18	0.70	0.19	0.09	0.78	3.74	0.23	3.66
R ²	0.29	0.27	0.41	0.45	0.16	0.37	0.38	0.55	0.35
N	93,620	93,620	93,620	93,620	93,620	93,620	92,444	93,620	92,403
Non-Project Houses									
inside × post	-0.355 ^b (0.170)	0.154 ^b (0.076)	-0.140 ^c (0.074)	-0.081 (0.080)	0.105 (0.079)	-0.028 (0.104)	0.074 (0.142)	-0.085 (0.054)	0.014 (0.165)
R ²	0.27	0.23	0.43	0.46	0.23	0.43	0.39	0.48	0.39
N	73,771	73,771	73,771	73,771	73,771	73,771	72,804	73,771	72,776

^c p<0.10, ^b p<0.05, ^a p<0.01

Table 5. Services

	Toilet on site	Share toilet	Piped water	Water Interruptions	B/c of pipe breaks	Connected to elec. util.	Elec. for cooking	Town picks up trash
All Houses								
inside × post	0.293 ^c (0.167)	0.165 ^a (0.053)	0.038 (0.046)	0.046 (0.082)	-0.031 (0.118)	0.353 ^c (0.184)	0.439 ^a (0.156)	0.130 ^c (0.074)
0-500m away × post	0.210 ^c (0.114)	0.119 (0.103)	0.118 (0.130)	0.310 ^a (0.078)	-0.116 (0.250)	0.061 (0.171)	0.134 (0.185)	-0.066 (0.042)
Mean	0.85	0.33	0.93	0.38	0.49	0.86	0.85	0.92
R ²	0.62	0.29	0.36	0.27	0.25	0.46	0.45	0.65
N	91,145	90,484	93,620	93,620	30,707	93,620	78,496	93,620
Non-Project Houses								
inside × post	0.215 (0.150)	0.337 ^a (0.119)	0.076 (0.051)	-0.010 (0.083)	0.103 (0.094)	0.172 (0.116)	0.306 ^a (0.104)	0.093 (0.078)
R ²	0.63	0.31	0.37	0.30	0.28	0.46	0.47	0.65
N	71,635	71,126	73,771	73,771	23,963	73,771	62,182	73,771

^c p<0.10, ^b p<0.05, ^a p<0.01

Table 6. Demographics

	Move dwell-type	HH size	Kids	African	Age	Emp	Inc	HHinc	Rent
All Houses									
inside × post	-0.040 (0.040)	-0.220 (0.517)	0.440 (0.280)	0.052 (0.041)	-3.915 ^b (1.742)	0.102 ^b (0.043)	-1564.766 (1224.823)	-2022.187 (1424.239)	24.453 (369.324)
0-500m away × post	0.122 ^b (0.058)	-0.117 (0.658)	-0.004 (0.302)	0.072 ^b (0.036)	1.623 (2.080)	-0.077 ^c (0.043)	-1663.016 ^b (749.530)	-2172.895 (1714.683)	385.454 (368.058)
Mean	0.09	4.90	1.73	0.92	28.31	0.37	4,672.17	6,735.32	878.98
R ²	0.07	0.16	0.14	0.58	0.04	0.09	0.31	0.45	0.63
N	38,241	90,473	91,361	93,620	93,620	67,671	13,965	38,782	14,100
Non-Project Houses									
inside × post	-0.051 (0.049)	-0.704 (0.565)	0.138 (0.254)	0.069 ^b (0.033)	-2.469 ^c (1.311)	0.118 ^c (0.061)	-1683.718 (1645.822)	-2286.569 (2039.327)	-54.899 (390.171)
R ²	0.09	0.18	0.15	0.57	0.04	0.11	0.31	0.45	0.64
N	31,173	70,987	71,837	73,771	73,771	54,017	11,471	30,795	11,526

^c p<0.10, ^b p<0.05, ^a p<0.01

Table 7. Kids outcomes

	Edu. level	time to school (1 to 5)	flu	diarrhea
All Houses				
inside × post	0.044 (0.147)	-0.099 (0.155)	-0.120 (0.077)	-0.009 ^b (0.004)
0-500m away × post	-0.067 (0.288)	-0.081 (0.232)	0.012 (0.058)	-0.003 (0.013)
Mean	6.37	1.81	0.09	0.01
R ²	0.85	0.26	0.10	0.31
N	15,353	20,234	30,217	30,217
Non-Project Houses				
inside × post	0.174 (0.173)	-0.050 (0.177)	-0.047 (0.047)	-0.005 (0.005)
R ²	0.86	0.30	0.11	0.35
N	11,542	15,304	22,926	22,926

^c p<0.10,^b p<0.05,^a p<0.01
controlling for age

Table 8. Neighborhood Quality

	Water Pollution	Air Pollution	Land Pollution	Noise Pollution	Been harassed	Been physically hurt
All Houses						
inside × post	-0.031 (0.071)	-0.071 (0.060)	-0.045 (0.059)	-0.051 (0.062)	-0.105 ^a (0.030)	0.003 (0.036)
0-500m away × post	-0.112 ^c (0.062)	-0.188 (0.126)	0.045 (0.096)	-0.039 (0.089)	-0.045 (0.069)	-0.002 (0.048)
Mean	0.16	0.26	0.20	0.21	0.06	0.02
R ²	0.18	0.21	0.22	0.19	0.12	0.10
N	93,620	93,620	93,620	93,620	22,909	22,860
Non-Project Houses						
inside × post	0.021 (0.052)	0.032 (0.092)	-0.011 (0.067)	-0.037 (0.083)	-0.107 ^a (0.031)	0.007 (0.042)
R ²	0.18	0.20	0.25	0.21	0.13	0.11
N	73,771	73,771	73,771	73,771	19,399	19,367

^c p<0.10, ^b p<0.05, ^a p<0.01
controlling for age

Table 9. Price

	Log Price	Log Rent
All Houses		
inside \times post	0.146 (0.414)	0.356 (0.221)
0-500m away \times post	0.002 (0.351)	-0.318 (0.236)
Mean	11.62	6.52
R ²	0.51	0.69
N	73,267	32,945
^c p<0.10, ^b p<0.05, ^a p<0.01 controlling for age		

Table 10. Price

	Log Price	Log Rent
Non-Project Houses		
inside × post	-0.415 ^b (0.199)	0.053 (0.121)
0-500m away × post	-0.565 (0.353)	0.188 (0.189)
Mean	11.65	6.58
R ²	0.79	0.83
N	43,037	23,762
Non-Project Houses Formal		
inside × post	-0.654 ^a (0.175)	-0.116 (0.239)
0-500m away × post	-0.824 ^a (0.241)	0.072 (0.181)
Mean	12.42	7.10
R ²	0.64	0.68
N	28,781	13,486
Non-Project Houses Informal		
inside × post	-0.868 ^b (0.432)	0.217 (0.225)
0-500m away × post	-1.175 ^b (0.500)	0.294 (0.251)
Mean	10.08	5.89
R ²	0.67	0.86
N	14,256	10,276

^c p<0.10, ^b p<0.05, ^a p<0.01
controlling for age

Table 11. Price No Controls

	Log Price	Log Rent
Non-Project Houses		
inside × post	-0.183 (0.299)	0.197 (0.127)
0-500m away × post	-0.481 (0.337)	0.013 (0.189)
Mean	11.67	6.57
R ²	0.70	0.76
N	56,295	29,111
Non-Project Houses Formal		
inside × post	-0.547 ^b (0.214)	-0.044 (0.271)
0-500m away × post	-0.555 ^b (0.215)	-0.127 (0.215)
Mean	12.46	7.11
R ²	0.44	0.51
N	37,606	16,394
Non-Project Houses Informal		
inside × post	-0.513 (0.443)	0.441 (0.270)
0-500m away × post	-1.569 ^a (0.496)	0.037 (0.268)
Mean	10.10	5.86
R ²	0.56	0.80
N	18,689	12,717

^c p<0.10, ^b p<0.05, ^a p<0.01
controlling for age