Supplementary material for Zipp, Lewis, and Provencher

This supplementary material provides all parameter estimates from the main paper (Tables S1 and S2) and additional information on zoning regulations. We also provide three additional regression results – 1) we specify a categorical minimum lot size variable to control for nonlinearities in the effect of zoning on development decisions, 2) we use this specification with categorical minimum lot size and disaggregate the models before and after 1996 to control for the drastic change in subdivision rate and density in 1996[i], and 3) we use our preferred model in the manuscript (Model 5) and include a variable to control for the percentage of conserved open space within a half-mile mile radius[ii].

S.1. Results with categorical minimum lot size

There have been substantial changes to the zoning ordinances and minimum lot size requirements in Door Country, Wisconsin over our sample timeframe, 1978-2009. These zoning regulations, minimum lot sizes, and percentage of sample land area in each zone in 1978 and 2009 are presented in Table S3 (also see Figure S1 for the spatial distribution of minimum lot size changes from 1978-2009). The major change in zoning policies for agricultural parcels is a shift from "A-1: Agricultural zoning" with a minimum lot size of 0.23 acres if connected to municipal sewers or 1 acre otherwise to "GA: General Agricultural" and "PA: Prime Agricultural" both with minimum lot sizes of 20 acres regardless of sewer connection. We observe a wide range of agricultural minimum lot sizes from a low of 0.23 acres to a high of 35 acres.

Residential parcels have remained mostly in "R1: Single Family Residential zoning," although the minimum lot size requirement for parcels with sewer increased from 0.23 acres in

1978 to 0.37 acres in 2009. Residential minimum lot sizes range from a low of 0.23 acres to a high of 5 acres.

Due to the wide range of agricultural minimum lot sizes, it is possible that the effect of minimum lot size on development decisions might be non-linear.[iii] Therefore, we include minimum lot size as a categorical variable. Results are robust to various specifications of these categories. We present the results with the categories defined in Table S4 (less than 1 acre, between 1 and 5 acres, between 5 and 20 acres, and greater than 20 acres). The average partial effects on the probability of subdivision of a quarter-mile decrease in the distance to open space (in percentage points) are presented in Table S5 using our preferred model (Model 5) with municipality-time dummies and correlated random effects. We fail to reject the null hypotheses that any of these partial effects are statistically different (at the 5% level) from the partial effects estimated with a linear specification for minimum lot size (Table V in the main paper).

The average partial effect of a quarter-mile decrease in the distance to open space on the number of lots per acre (measured as a percentage change) are presented in Table S6 using our preferred model (Model 5). We fail to reject the null hypotheses that any of these partial effects are statistically different (at the 5% level) from the partial effects estimated with a linear specification for minimum lot size (Table VI in the main paper). However, for residential parcels within a half-mile of conserved open space, the categorical minimum lot size specification predicts that a decrease in the distance to open space has *no statistically significant* effect on the number of lots per acre, while the effect in the main body of the paper is positive and statistically significant (10% level). Though the statistical significance falls, the move from a linear to a categorical specification for minimum lot size has minor changes on the magnitude of the marginal effects of a reduction in distance to open space on the number of lots per acre.

S.2. Separate results for the time periods 1978-1995 and 1996-2009

Due to the drastic change in subdivision rate and density in 1996 we estimated our models separately for the time periods 1978-1995 and 1996-2009. A likelihood ratio test rejects the null hypothesis (1% level) that all coefficients are the same between these two time periods.[iv] To explore the potential heterogeneity in the different time periods, the results below are presented for agricultural parcels before and after 1996 and residential parcels before and after 1996. All models are estimated with the categorical minimum lot size described in Table S4.

The estimated partial effects of a reduction in distance to conserved open-space do differ across time periods when we disaggregate estimation into the separate time periods. We explore three explanations for this discrepancy across time periods. First, the sample size is different across the two time periods with more observations from 1978-1995. A drawback from estimating the model separately over two time periods is that we greatly reduce the variation of distance to open-space ***within*** each parcel compared to estimation over the entire time period, which should (at minimum) increase standard errors in our primary estimates. This is an unavoidable cost from splitting a panel data analysis into multiple separate time periods. Second, the number of additional open-space parcels is 61 from 1978-1995 and 198 from 1996-2009, so that the within-variation of distance to open space is higher from 1996-2009. Third, in 1996, the sample of developable agricultural parcels decreases from 2284 to 989 suggesting that either agricultural parcels are subdividing to a size where they can no longer legally subdivide further and thus dropping out of our sample or downzoning occurred for agricultural parcels as part of the Smart Growth movement. In either case, smaller agricultural parcels are more heavily affected and may be dropped from our sample at a higher rate than larger agricultural parcels[v].

However, even though some of the estimated partial effects of a reduction in distance to conserved open-space differ across time periods, we are able to confirm that our primary simulation findings are robust to whether we estimate the model over the entire time period or separately over two different time periods.

S.2.1. Econometric results for agricultural parcels

Results indicate significant spatial and temporal heterogeneity in the effect of conserved open space on the probability of subdivision on agricultural land. The full parameter results are presented in Table S10 (1978-1995) and Table S11 (1995-2009). The marginal effects in Tables S14 and S15 show that the size of the nearest conserved open space (*open_size*) has no statistically significant effect on the probability of subdivision for agricultural parcels but does have a very small but statistically significant (at the 10% level) effect on the number of lots per acre created upon subdivision (across both time periods). Furthermore, there is no unique effect on the probability of subdivision for agricultural parcels if the closest parcel is exceptionally large (in the 95th percentile of size), as indicated by the non-significance of *open_big*. However, agricultural parcels whose closest open space is in the 95th percentile of size create approximately 15 percent fewer lots per acre before 1996 (statistically significant at the 10% level) and 9 percent fewer lots per acre after 1996 (statistically significant at the 1% level) upon subdivision than agricultural parcels whose closest open space is not exceptionally large

Probability of subdivision

Using the estimation aggregated over all time periods, Model 5 predicts that a quarter-mile decrease in distance to open space *increases* the probability of agricultural subdivision in a given time period (all time periods) by 0.889 percentage points on average (significant at the 5% level) (see Table V), for agricultural parcels within a half-mile of conserved open space. When we disaggregate the estimation for the time periods 1978-1995 and 1996-2009, 85% of the observations occur in the time period 1978-1995 (18,188 observations from 1978-1995 compared to 3,010 observations from 1996-2009). Thus, the partial effect using all time periods in the main manuscript is driven by the results in 1978-1995 period. For agricultural parcels within a half-mile of conserved open space, Model 5 predicts that a quarter-mile decrease in distance to open space *increases* the probability of agricultural subdivision in a given time period by 0.858 percentage points on average before 1996 (significant at the 5% level) and has no statistically significant effect on the probability of subdivision after 1996 (see Table S7).

Number of lots per acre

Using the estimation aggregated over all time periods, Model 5 predicts that a quarter-mile decrease in distance to open space *decreases* the number of lots per acre by 17.10 percent on average (significant at the 1% level) (see Table VI), for agricultural parcels within a half-mile of conserved open space. When we disaggregate the estimation for the time periods 1978-1995 and 1996-2009, the sample size of parcels that subdivide (and thus enter the equation to predict the number of lots per acre) are fairly even across the two time periods (494 observations from 1978-1995 compared to 342 observations from 1996-2009). For agricultural parcels within a half-mile of conserved open space, Model 5 predicts that a quarter-mile decrease in distance to open space *decreases* the number of lots per acre by 8.93 percent on average before 1996 (not statistically significant at the 10% level) and by 23.37 percent on average after 1996 (significant at the 5% level) (see Table S8). Using the 1996-2009 results, we fail to reject (at the 5% level) the null hypothesis that the partial effect is equal to the point estimate from the 1978-1995 period. Thus, there is not strong evidence that the results are significantly different across periods. The lack of significance for the 1978-1995 period is likely the result of less within-variation than the 1996-2009 period, as the earlier period saw 61 new open-space parcels while the latter period saw 198 new open-space parcels.

S.2.2. Econometric results for residential parcels

Similar to the results for agricultural parcels, the estimated effect of a reduction in the distance to conserved open space depends on the time period, how far a parcel is from open space, and the model specification. The full parameter results are presented in Table S12 (before 1996) and Table S13 (after 1996). The marginal effects in Tables S14 and S15 show that the size of the nearest conserved open space (*open_size*) has a small, positive, and statistically significant (at the 5% level) effect on the probability of subdivision for residential parcels and has a small, negative, and statistically significant (at the 5% level) decrease in the number of new residential lots per acre after 1996. Furthermore, residential parcels whose closest open space is in the 95th percentile of size are approximately 1.5 percentage points less likely to subdivide than residential parcels whose closest open space is smaller before 1996, and no statistically significant effect (at the 10% level) after 1996. The indicator variable for open space in the 95th percentile of size (*open_big*) does not have a statistically significant (at the 10%) level on the probability of residential subdivision after 1996 or the number of residential lots created per acre in both time periods.

Probability of subdivision

Using the estimation aggregated over all time periods, Model 5 predicts that a quarter-mile decrease in distance to open space *increases* the probability of residential subdivision in a given time period (all time periods) by 1.07 percentage points on average (significant at the 1% level) (see Table V) for residential parcels within a half-mile of conserved open space. For residential parcels within a half-mile of conserved open space, Model 5 predicts that a quarter-mile decrease in distance to open space *increases* the probability of residential subdivision in a given time period by 0.519 percentage points on average before 1996 (significant at the 10% level) and by 2.33 percentage points on average after 1996 (significant at the 1% level) (see Table S7). The partial effect is positive and significant in both periods, though the point estimate is larger in magnitude in the latter 1996-2009 period. Although the 95% confidence intervals of the partial effects overlap across the two time periods, it is difficult to assess how strong a conclusion would be that the partial effect is higher in the latter period. The partial effect when all periods are aggregated in the paper is clearly an average effect over the two periods.

Number of lots per acre

Using the estimation aggregated over all time periods, Model 5 predicts that a quarter-mile decrease in distance to open space *increases* the number of lots per acre by 3.78 percent on average (not statistically significant at the 10% level) (see Table VI), for residential parcels within a half-mile of conserved open space. When we disaggregate the estimation for the time periods 1978-1995 and 1996-2009, the sample size of parcels that subdivide (and thus enter the equation to predict the number of lots per acre) is dominated by the latter period (436 observations from 1978-1995 compared to 1020 observations from 1996-2009). For residential parcels within a half-mile of conserved open space, Model 5 predicts that a quarter-mile decrease in distance to open space *increases* the number of lots per acre by 22.37 percent on average before 1996 (significant at the 5% level) and by 6.51 percent on average after 1996 (significant at the 5% level) (see Table S8). Using the 1996-2009 results, we reject (at the 5% level) the null hypothesis that the partial effect is equal to the point estimate from the 1978-1995 period. However, there is overlap in the 95% confidence intervals for the partial effect across the two time periods. Thus, there is some weak evidence of a structural break in the magnitude (but not the sign) of the partial effect across the two time periods. As shown in the landscape simulation, this structural break does not affect our primary results.

S.2.3 Landscape simulation results

We performed the full simulation model using the disaggregated econometric model before and after 1996 and a categorical minimum lot size specification. Simulation results indicate significant heterogeneity in the predicted net effect of conserved open space on development, and the overall results are very similar to the simulation results presented in the main body of the paper. The most common effect is that a single parcel of open space generates close to no effect on the net amount of local development, though there is significant heterogeneity. Approximately 58% of conserved open space had minimal impacts on net development of between -10% and +10%. A total of 83% of newly conserved open space induced a net reduction in local development, while 17% of created conserved open space induced a net increase in local development. These simulation results are almost the same as the simulation results in reported in section 4.2 of the main part of the paper, indicating that our primary results are robust to disaggregating estimation across the 1978-1996 and 1996-2009 time periods.

Similar to the main body of the paper, we explore which attributes of conserved open space are most important in leading to larger positive net effects on development by conducting systematic post-simulation analysis. We regress the proportion change in net development when a parcel, os_{jt}, is conserved as open space (compared to the counterfactual when the parcel is developable) on the size of open space, the proportion of private parcels for which os_{jt} is the closest open space, $i \in N_{os_{jt}}$, that is in agricultural use, and a measure of the availability of substitutes for the nearest conserved open space. Substitutability is measured as the average change in distance to conserved open space when the open space is removed (see Table VII in the main paper for summary statistics). We allow this substitutability measure to have a different effect on conserved open space that lowers net development (negative values of the dependent variable) versus conserved open space that increases net development (positive values of the dependent variable) because we hypothesize that the availability of proximate substitute open spaces will lead to a smaller net effect on development. In areas with more open space the addition of one more conserved parcel does not change the distance to open space for many of the nearby parcels and thus the subdivision probabilities and the density decisions do not change significantly. We also include municipality fixed effects to allow for regional heterogeneity.

The results of this post-simulation analysis are reported in Table S9. Adding a larger conserved open space has a larger effect on total development than adding a smaller new conserved open space parcel (statistically significant at the 1% level). The size of open space has two opposing effects on the proportion change in net development: (1) larger open space parcels protect more land from being developed within the open space parcel itself; and (2) larger open space parcels have larger neighborhoods and thus, potentially a greater spillover development effect on nearby parcels. In our sample, we find that the later effect dominates and larger open space parcels increase net development more than smaller open spaces.

Results also indicate that the presence of substitute parcels of conserved open space is statistically important in determining the net development effect of each conserved parcel (1% level). Adding a new conserved open space parcel to a neighborhood with more conserved substitutes has a smaller effect on total development than adding a new conserved open space parcel to a neighborhood with few substitutes[vi].

S.3. Results with the percentage of conserved open space within a half-mile radius

The primary results in this paper examine the size of the nearest open-space in an attempt to test whether the size of conserved open-space has an effect on the land development process. In an effort to broaden our analysis beyond analyzing just the closest conserved open-space parcel, we conduct our analysis with an additional independent variable that measures the percentage of land within a half-mile radius of each developable parcel that is in conserved open-space. This new variable captures the size of *any* conserved open-space nearby a developable parcel, whether that conserved open-space is the closest conserved land or not. Average partial effects are presented in Table S16. First, the inclusion of a variable measuring the density of conserved open-space within a half-mile radius of each developable parcel has almost no effect on the average partial effects for the primary conserved open-space variable measuring distance to open-space (*open_dist*). Second, we find that a one-percentage point increase in the density of conserved open-space within a half-mile radius of each developable parcel has no statistically significant effect on either the probability of subdivision or the expected number of lots for parcels that begin in either an agricultural or residential use.

In addition to examining marginal effects associated with the inclusion of a variable measuring the density of conserved open-space within a half-mile radius of each developable parcel, we also re-run the landscape simulation with this variable and re-construct the primary results from figure 2 in the main paper and the post-simulation regression results from the main paper. New results are presented in Figure S2 and Table S17. Landscape simulation results are virtually unchanged from the main paper and none of the main conclusions are affected by including the new density of conserved open-space variable.

Figures

Figure S1: Spatial pattern of minimum lot size changes from 1978-2009

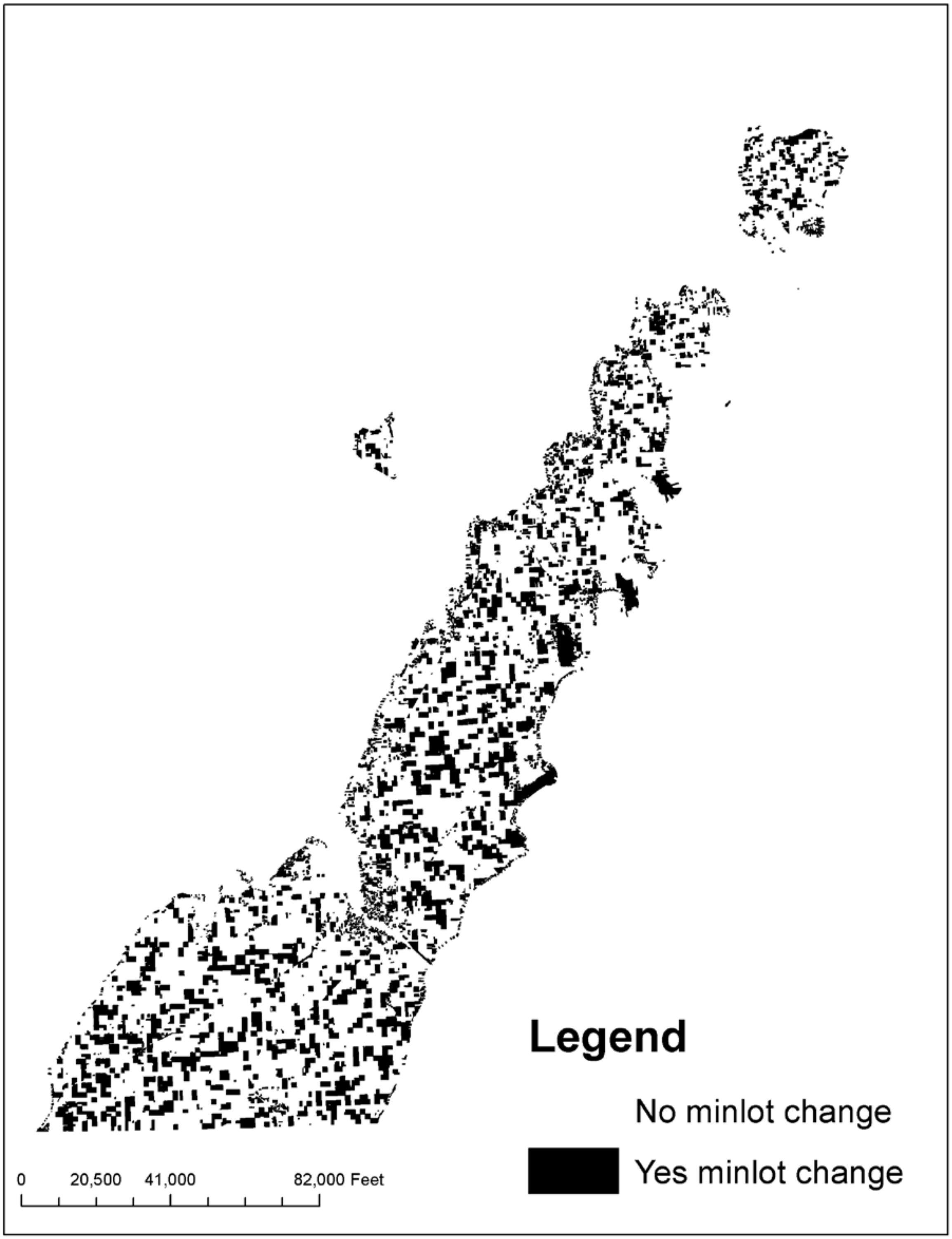
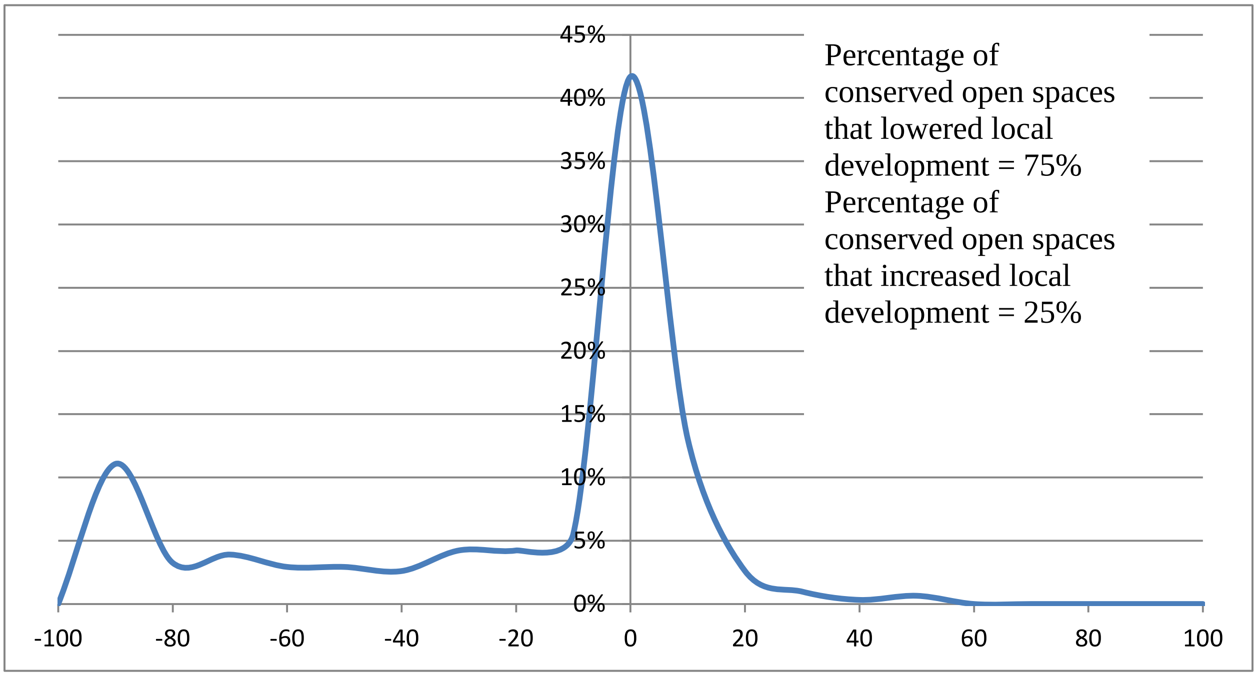


Figure S2. Landscape Simulation Results with the additional open space variable (percentage open space in a half-mile radius) – Estimated Distribution of Net Change in Development from Creation of Individual Conserved Open Space in Door Co., WI (1978-2009)



Note: Negative values indicate that conserved open space lowers net development; positive values indicate that conserved open space increases net development.
Approximately 55% of conserved open space had minimal impacts on net development of between -10% and +10%. A total of 75% of newly conserved open space induced a net reduction in local development, while 25% of created conserved open space induced a net increase in local development.

Tables

Table S1: Two-stage Heckman parameter estimates for agricultural parcels

	Model 1	**Model 2**	**Model 3**	**Model 4**	**Model 5**
Selection model: Dependent variable is binary subdivision decision					
split	-0.0947	-0.150+	0.234	0.310	0.304
	(0.0714)	(0.0799)	(0.237)	(0.258)	(0.297)
open_dist	-0.730*	-0.755*	-0.673*	-0.749*	-0.791*
	(0.293)	(0.318)	(0.331)	(0.337)	(0.362)
open_dist^2	0.825+	1.042*	0.776	1.071*	1.036+
	(0.477)	(0.513)	(0.490)	(0.485)	(0.529)
open_dist^3	-0.341	-0.454	-0.299	-0.479+	-0.435
	(0.273)	(0.291)	(0.282)	(0.273)	(0.301)
open_dist^4	0.0406	0.0585	0.0320	0.0648	0.0539
	(0.0497)	(0.0526)	(0.0518)	(0.0489)	(0.0548)
open_dist*open_size	-0.000111+	-0.0000322	-0.0000968	-0.0000379	-0.0000170
(open_big = 0)	(0.0000656)	(0.0000774)	(0.0000659)	(0.0000763)	(0.0000787)
open_dist*open_size	0.0000738**	-0.00000980	-0.000118*	-0.000128*	-0.000126*
(open_big = 1)	(0.0000158)	(0.0000193)	(0.0000579)	(0.0000533)	(0.0000558)
minlot	-0.214**	-0.239**	-0.184**	-0.193**	-0.215**
	(0.0146)	(0.0209)	(0.0178)	(0.0203)	(0.0238)
minlot^2	0.00264**	0.00280**	0.00239**	0.00281**	0.00277**
	(0.000552)	(0.000781)	(0.000576)	(0.000672)	(0.000803)
area	0.00509**	0.00618**	0.00508**	0.00589**	0.00600**
	(0.000633)	(0.000694)	(0.000645)	(0.000689)	(0.000710)
area^2	-0.00000637**	-0.00000833**	-0.00000630**	-0.00000754**	-0.00000790**
	(0.00000166)	(0.00000176)	(0.00000168)	(0.00000175)	(0.00000177)
shore_dist	-0.155**	-0.242**	-0.157**	-0.238**	-0.249**
	(0.0178)	(0.0262)	(0.0181)	(0.0256)	(0.0268)
bay_dummy	-0.291**	-0.00713	-0.318**	-0.0855	-0.0326
	(0.0438)	(0.0789)	(0.0453)	(0.0760)	(0.0820)
gb_dist	0.00683**	-0.00287	0.00634**	-0.00815	-0.00937
	(0.00152)	(0.0122)	(0.00156)	(0.0121)	(0.0125)
pbsmnt	0.167**	-0.0634	0.173**	-0.0423	-0.0711
	(0.0607)	(0.0703)	(0.0617)	(0.0695)	(0.0717)
pslope	0.497+	0.433	0.527+	0.380	0.435
	(0.286)	(0.309)	(0.289)	(0.306)	(0.315)
pflood	-0.611**	-0.829**	-0.668**	-0.666**	-0.877**
	(0.175)	(0.198)	(0.179)	(0.191)	(0.202)
mean(minlot)			-0.0349**	-0.0599**	-0.0364*
			(0.0123)	(0.0139)	(0.0156)
mean(open_dist)			-0.0560	-0.0669	0.00847
			(0.142)	(0.146)	(0.156)
mean(split)			-0.377	-0.467+	-0.516+
			(0.250)	(0.270)	(0.309)
mean(open_dist*open_size *open_big)			0.000231**	0.000143*	0.000145*
			(0.0000602)	(0.0000565)	(0.0000588)
constant	-1.748**	-0.322	-2.292**	-0.975	-0.993
	(0.134)	(0.728)	(0.329)	(0.776)	(0.838)
Outcome model: Dependent variable is the natural log of the number of lots per acre					
open_dist	-0.0493	1.191*	0.0823	0.935+	1.124*

	(0.532)	(0.491)	(0.491)	(0.501)	(0.489)
$open\_dist^2$	0.0504	-1.727*	-0.118	-1.240	-1.632+
	(0.864)	(0.846)	(0.821)	(0.850)	(0.842)
$open\_dist^3$	-0.0671	0.925+	0.0168	0.668	0.885+
	(0.494)	(0.510)	(0.477)	(0.502)	(0.508)
$open\_dist^4$	0.0194	-0.151	0.00769	-0.117	-0.145
	(0.0897)	(0.0979)	(0.0878)	(0.0933)	(0.0974)
open_dist*open_size	0.000186	0.000435**	0.000197+	0.000182+	0.000417**
(open_big = 0)	(0.000114)	(0.000131)	(0.000108)	(0.000110)	(0.000132)
open_dist*open_size	0.0000352	-0.0000129	0.0000373	-0.0000200	-0.00000733
(open_big = 1)	(0.0000350)	(0.0000274)	(0.0000322)	(0.0000286)	(0.0000276)
minlot	-0.226**	-0.160**	-0.190**	-0.170**	-0.168**
	(0.0620)	(0.0433)	(0.0403)	(0.0367)	(0.0367)
$minlot^2$	0.00336**	0.00350**	0.00298**	0.00294**	0.00357**
	(0.00100)	(0.000995)	(0.000802)	(0.000818)	(0.000931)
area	-0.0163**	-0.0171**	-0.0174**	-0.0173**	-0.0169**
	(0.00178)	(0.00133)	(0.00126)	(0.00115)	(0.00111)
$area^2$	0.0000182**	0.0000188**	0.0000195**	0.0000191**	0.0000185**
	(0.00000281)	(0.00000224)	(0.00000222)	(0.00000207)	(0.00000201)
shore_dist	-0.122*	-0.230**	-0.0942**	-0.219**	-0.234**
	(0.0487)	(0.0548)	(0.0358)	(0.0526)	(0.0502)
bay_dummy	-0.104	-0.0589	-0.0785	-0.115	-0.0722
	(0.109)	(0.115)	(0.0907)	(0.120)	(0.116)
GB_dist	0.00283	0.00540	0.00115	0.00941	0.00561
	(0.00330)	(0.0188)	(0.00276)	(0.0191)	(0.0189)
pbsmnt	-0.114	-0.224*	-0.149	-0.218*	-0.228*
	(0.114)	(0.100)	(0.102)	(0.104)	(0.101)
pslope	0.283	0.461	0.199	0.267	0.452
	(0.473)	(0.387)	(0.438)	(0.413)	(0.389)
pflood	-1.210**	-1.002**	-1.130**	-0.937**	-1.045**
	(0.354)	(0.322)	(0.325)	(0.315)	(0.311)
constant	-3.770**	-2.691*	-3.110**	-2.966**	-2.715*
	(0.825)	(1.130)	(0.483)	(1.132)	(1.115)
Inverse mills ratio	0.967**	0.377+	0.730**	0.503**	0.453**
	(0.356)	(0.220)	(0.211)	(0.167)	(0.162)
N	20947	20947	20947	20947	20947

Note: Standard errors in parentheses. Time dummies, interaction terms between municipality and time dummies, and the sample averages of the time dummies in the CRE Models 2, 4, and 5 not reported. +p<0.10, *p<0.05, **p<0.01

Table S2: Two-stage Heckman parameter estimates for residential parcels

	Model 1	**Model 2**	**Model 3**	**Model 4**	**Model 5**
Selection model: Dependent variable is binary subdivision decision					
split	-0.482**	-0.514**	-0.512**	-0.525**	-0.532**
	(0.0375)	(0.0388)	(0.100)	(0.101)	(0.105)
open_dist	-0.757**	-0.679**	-0.891**	-0.866**	-0.761**
	(0.167)	(0.177)	(0.196)	(0.200)	(0.209)
open_dist^2	0.779**	0.750**	0.967**	0.976**	0.888**
	(0.228)	(0.243)	(0.237)	(0.240)	(0.252)
open_dist^3	-0.315**	-0.302**	-0.396**	-0.408**	-0.356**
	(0.0996)	(0.110)	(0.104)	(0.106)	(0.115)
open_dist^4	0.0419**	0.0415**	0.0518**	0.0541**	0.0477**
	(0.0129)	(0.0149)	(0.0135)	(0.0138)	(0.0156)
open_dist*open_size	0.0000801	0.0000564	0.000186**	0.000107	0.0000917
(open_big = 0)	(0.0000593)	(0.0000696)	(0.0000615)	(0.0000665)	(0.0000718)
open_dist*open_size	-0.000000259	-0.000000180	-0.000161	-0.000164	-0.000140
(open_big = 1)	(0.0000211)	(0.0000225)	(0.000104)	(0.000105)	(0.000105)
minlot	0.0365	-0.0153	0.483**	0.521**	0.400**
	(0.0894)	(0.103)	(0.109)	(0.114)	(0.124)
minlot^2	-0.0139	-0.00220	-0.0523**	-0.0647**	-0.0375+
	(0.0162)	(0.0187)	(0.0176)	(0.0185)	(0.0201)
area	0.0179**	0.0181**	0.0173**	0.0173**	0.0177**
	(0.000738)	(0.000774)	(0.000753)	(0.000766)	(0.000791)
area^2	-0.0000256**	-0.0000254**	-0.0000248**	-0.0000246**	-0.0000248**
	(0.00000174)	(0.00000177)	(0.00000176)	(0.00000177)	(0.00000179)
shore_dist	-0.0678*	-0.124**	-0.0799**	-0.0968**	-0.107**
	(0.0294)	(0.0358)	(0.0306)	(0.0363)	(0.0374)
bay_dummy	0.103**	0.0639	0.0934**	0.0684	0.0663
	(0.0334)	(0.0594)	(0.0343)	(0.0602)	(0.0610)
GB_dist	0.000672	0.00257	-0.00258*	0.000955	-0.000380
	(0.00108)	(0.00709)	(0.00115)	(0.00710)	(0.00731)
pbsmnt	0.00630	-0.0248	-0.00387	-0.0265	-0.0230
	(0.0384)	(0.0414)	(0.0396)	(0.0419)	(0.0427)
pslope	0.0184	-0.00475	0.0397	-0.00736	-0.00544
	(0.104)	(0.109)	(0.107)	(0.110)	(0.112)
pflood	0.106	0.102	0.164	0.156	0.160
	(0.106)	(0.111)	(0.108)	(0.111)	(0.113)
mean(open_dist)			-0.0217	-0.0164	-0.0575
			(0.0897)	(0.0943)	(0.101)
mean(minlot)			-0.174*	-0.126	-0.164+
			(0.0811)	(0.0820)	(0.0840)
mean(split)			-0.0305	-0.0365	-0.0414
			(0.112)	(0.113)	(0.118)
mean(open_dist*open_size *open_big)			0.000162	0.000172	0.000146
			(0.000106)	(0.000107)	(0.000107)
constant	-1.908**	-2.092**	-3.029**	-3.316**	-3.409**
	(0.0978)	(0.487)	(0.164)	(0.443)	(0.522)
Outcome model: Dependent variable is the natural log of the number of lots per acre					
open_dist	-1.289**	-0.589+	-0.676*	-0.373	-0.148
	(0.371)	(0.347)	(0.285)	(0.283)	(0.284)
open_dist^2	0.977+	0.554	0.361	0.324	0.115
	(0.505)	(0.497)	(0.403)	(0.398)	(0.420)

$open\_dist^3$	-0.316	-0.246	-0.0718	-0.135	-0.0765
	(0.224)	(0.244)	(0.183)	(0.181)	(0.211)
$open\_dist^4$	0.0385	0.0483	0.00568	0.0197	0.0245
	(0.0292)	(0.0386)	(0.0238)	(0.0238)	(0.0339)
open_dist*open_size (open_big = 0)	-0.0000866	-0.000120	-0.000130	-0.000157	-0.000156
	(0.000122)	(0.000129)	(0.0000957)	(0.0000998)	(0.000106)
open_dist*open_size (open_big = 1)	-0.0000485	-0.0000538	-0.0000468	-0.0000494	-0.0000530
	(0.0000422)	(0.0000397)	(0.0000334)	(0.0000344)	(0.0000333)
minlot	-1.019**	-1.344**	-0.950**	-0.986**	-1.279**
	(0.178)	(0.176)	(0.136)	(0.137)	(0.140)
$minlot^2$	0.115**	0.182**	0.115**	0.126**	0.179**
	(0.0323)	(0.0318)	(0.0245)	(0.0249)	(0.0251)
area	0.00467	0.000368	-0.0127**	-0.0131**	-0.0129**
	(0.00328)	(0.00286)	(0.00154)	(0.00150)	(0.00147)
$area^2$	-0.0000146**	-0.00000793+	0.0000112**	0.0000118**	0.0000116**
	(0.00000538)	(0.00000460)	(0.00000263)	(0.00000254)	(0.00000244)
shore_dist	-0.120+	-0.200**	-0.0697	-0.176**	-0.137*
	(0.0613)	(0.0689)	(0.0487)	(0.0575)	(0.0583)
bay_dummy	0.127+	-0.0377	0.0328	-0.107	-0.131
	(0.0712)	(0.108)	(0.0554)	(0.0934)	(0.0898)
GB_dist	-0.00365	0.0354**	-0.00538**	0.0278*	0.0315**
	(0.00225)	(0.0130)	(0.00177)	(0.0112)	(0.0109)
pbsmnt	-0.0897	-0.169*	-0.140*	-0.222**	-0.210**
	(0.0809)	(0.0770)	(0.0648)	(0.0668)	(0.0649)
pslope	0.114	0.178	0.162	0.188	0.221
	(0.218)	(0.202)	(0.174)	(0.174)	(0.168)
pflood	-0.0983	0.0252	-0.0995	-0.0294	0.00150
	(0.224)	(0.207)	(0.181)	(0.181)	(0.176)
constant	-4.764**	-6.594**	-1.802**	-3.578**	-4.119**
	(0.514)	(1.004)	(0.253)	(0.706)	(0.785)
Inverse Mills Ratio	1.768**	1.459**	0.594**	0.574**	0.554**
	(0.197)	(0.172)	(0.0930)	(0.0893)	(0.0870)
N	31330	31330	31330	31330	31330

Note: Standard errors in parentheses. Time dummies, interaction terms between municipality and time dummies, and the sample averages of the time dummies in the CRE Models 2 and 4 not reported. +p<0.10, *p<0.05, **p<0.01

Table S3: Zoning regulations, minimum lot sizes, and percentage of sample land area in each zone in 1978 and 2009

Zoning code	Name	Minlot with sewer (acres) (1978/2009)	Minlot without sewer (acres) (1978/2009)	1978	2009
A-1	Agricultural	0.23/1.00	1.00	68.75%	8.42%
A-2	General Rural	0.23/5.00	5.00	8.37%	1.41%
A-3	Rural Residential	0.23/0.92	2.5/0.92	0.00%	0.02%
A-4	Prime Agricultural Land	0.23/20	20	8.55%	2.02%
A-6	Heartland	--/3.5	--/3.5		0.02%
C-1	General Commercial	0.23/--	0.46/--	0.00%	
C-2	Recreational/Resort Commercial	0.23/0.46	0.46	0.00%	0.01%
CON	Conservancy/ Conservation Area	0.23/15	1/15	1.12%	0.31%
CS	Countryside	--/10	--/10		0.22%
EA	Exclusive Agricultural	--/35	--/35		4.32%
ES	Estate	--/5.00	--/5.00		4.97%
GA	General Agricultural	--/20	--/20		50.44%
HD	High Density Residential	--/0.37	--/0.37		0.23%
MC	Mixed Use Commercial	--/0.37	--/0.46		0.00%
NA	Natural Area	--/15	--/15		0.15%
PA	Prime Agricultural	--/20	--/20		12.88%
R-1	Single Family Residential	0.23/0.37	0.46	12.28%	4.92%
R-2	Residential	--/2.5	--/2.5		0.03%
R-3	Residential	--/5.00	--/5.00		0.37%
RC	Recreational Commercial	--/0.46	--/0.46		0.15%
RC-1	Rural Community	0.23/--	0.46/--	0.01%	
REC	Recreational	0.23/0.37	0.46	0.68%	1.73%
RR	Rural Residential	0.92	0.92		0.56%
SC-1	Shoreland Community	0.23	0.46	0.00%	0.03%
SE	Small Estate Residential	--/1.5	--/1.5		1.51%
SF20	Single Family - 20,000	--/0.46	--/0.46		2.90%
SF30	Single Family - 30,000	--/0.69	--/0.69		0.13%
S-W	Shoreland-Wetland	1.00	1.00	0.13%	0.25%
W	Wetland	--/10	--/10		2.01%

Table S4: Summary of variables used in estimation

Variable	**Description**	**Mean**	**Std. Dev.**	**Min**	**Max**
Time-varying Characteristics					
open_dist	Distance to open space (miles)	0.80	0.70	0	4.96
open_size	Size of nearest open space (acres)	414.13	1008.35	0.037	4864.28
open_big	=1 for open space in the 95^{th} percentile of size =0 otherwise	0.075	0.26	0	1
split	=1 if a parcel can legally only split into two parcels = 0 otherwise	0.23	0.42	0	1
$minlot_1$	=1 if minimum lot size zoning $\leq$ 1 acre =0 otherwise	0.84	0.37	0	1
$minlot_2$	=1 if minimum lot size zoning $\in$ (1, 5] acres =0 otherwise	0.080	0.27	0	1
$minlot_3$	=1 if minimum lot size zoning $\in$ (5, 20] acres =0 otherwise	0.075	0.26	0	1
$minlot_4$	=1 if minimum lot size zoning $\geq$ 20 acres =0 otherwise	0.0043	0.066	0	1
Time-invariant Characteristics					
area	Area of parcel (acres)	24.69	44.41	0.46	871.03
shore_dist	min(distance to bay, distance to lake) (mile)	1.08	1.38	0.0054	8.44
bay_dummy	=1 if parcel is closer to the bay = 0 if parcel is closer to the lake	0.51	0.50	0	1
GB_dist	Distance to City of Green Bay (mile)	52.54	16.03	17.88	83.79
pbsmnt	Proportion of parcel rated limited for dwelling with basements	0.62	0.37	0	1
pslope	Proportion of parcel with a slope of 15-25	0.031	0.12	0	1
pflood	Proportion of parcel with frequent flooding	0.048	0.14	0	1

Table S5: Average partial effect on the probability of subdivision of a quarter-mile decrease in the distance to open space (percentage points) with categorical minimum lot size

Model	Model 5
Agricultural	
Average effect	0.192 (0.205)
Average effect (parcels within 0.5 miles of open space)	0.772+ (0.398)
Residential	
Average effect	0.540* (0.216)
Average effect (parcels within 0.5 miles of open space)	1.09** (0.319)
Time Dummies	Yes
Municipality Dummies	No
Municipality Dummies *Time Dummies	Yes
Correlated Random Effects in the selection model	Yes

Note: Standard errors in parentheses. The average effects are presented in terms of a change in percentage points on a 0-100 scale. + p < 0.10, *p<0.05, **p<0.01

Table S6: Average partial effect of a quarter-mile decrease in the distance to open space on the number of lots per acre (percentage change) with categorical minimum lot size

Model	Model 5
Agricultural	
Average effect	-7.90** (2.18)
Average effect (parcels within 0.5 miles of open space)	-17.99** (5.94)
Residential	
Average effect	1.74 (2.04)
Average effect (parcels within 0.5 miles of open space)	2.81 (3.91)
Time Dummies	Yes
Municipality Dummies	No
Municipality Dummies *Time Dummies	Yes
Correlated Random Effects in the selection model	Yes

Note: Standard errors in parentheses. The average effects are presented in terms of a percentage change in the number of new lots per acre on a 0-100 scale. + p < 0.10, *p<0.05, **p<0.01

Table S7: Average partial effect on the probability of subdivision of a quarter-mile decrease in the distance to open space (percentage points) with categorical minimum lot size and separated by time period

	Model	Model 1	Model 2	Model 3	Model 4	Model 5
Agricultural						
1978-1995	Average effect (all parcels)	0.242** (0.0840)	0.0859 (0.0871)	0.197 (0.250)	0.0299 (0.233)	0.0677 (0.235)
	Average effect (parcels within 0.5 miles of open space)	1.06** (0.324)	0.853** (0.328)	0.999* (0.432)	0.831* (0.425)	0.858* (0.425)
1996-2009	Average effect (all parcels)	0.0224 (0.187)	-0.172 (0.196)	-0.721 (0.715)	-0.605 (0.744)	-0.430 (0.715)
	Average effect (parcels within 0.5 miles of open space)	-1.52* (0.689)	-1.82** (0.686)	-2.26+ (1.22)	-1.89 (1.25)	-1.55 (1.23)
Residential						
1978-1995	Average effect (all parcels)	0.334** (0.0828)	0.304** (0.0852)	0.474* (0.211)	0.407* (0.184)	0.163 (0.233)
	Average effect (parcels within 0.5 miles of open space)	0.671** (0.190)	0.661** (0.187)	0.809** (0.280)	0.768** (0.252)	0.519+ (0.285)
1996-2009	Average effect (all parcels)	1.800** (0.428)	1.47** (0.443)	1.67** (0.599)	1.67** (0.606)	1.43* (0.609)
	Average effect (parcels within 0.5 miles of open space)	2.62** (0.695)	2.27** (0.707)	2.62** (0.827)	2.60** (0.836)	2.33** (0.836)
	Time Dummies	Yes	Yes	Yes	Yes	Yes
	Municipality Dummies	No	No	No	Yes	No
	Municipality Dummies *Time Dummies	No	Yes	No	No	Yes
	Correlated Random Effects	No	No	Yes	Yes	Yes

Note: Standard errors in parentheses. The average effects are presented in terms of a change in percentage points on a 0-100 scale. + p < 0.10, *p<0.05, **p<0.01

Table S8: Average partial effect on the number of lots per acre of a quarter-mile decrease in the distance to open space (percentage change) with categorical minimum lot size and separated by time period

	Model	Model 1	Model 2	Model 3	Model 4	Model 5
	Agricultural					
1978-1995	Average effect (all parcels)	8.95	-4.55	-1.36	-4.02+	-7.68**
		(6.93)	(4.78)	(2.21)	(2.33)	(2.66)
	Average effect (parcels within 0.5 miles of open space)	30.15	8.50	1.53	-4.84	-8.93
		(21.33)	(18.65)	(7.16)	(7.93)	(7.79)
1996-2009	Average effect (all parcels)	-10.59	-18.48	-12.40	-17.19	-17.63
		(16.67)	(16.45)	(15.94)	(16.17)	(16.45)
	Average effect (parcels within 0.5 miles of open space)	-11.10	-22.50*	-9.62	-17.45	-23.37*
		(11.94)	(11.15)	(10.53)	(10.93)	(10.98)
	Residential					
1978-1995	Average effect (all parcels)	27.65**	22.57**	14.47**	11.77**	9.28**
		(6.92)	(7.78)	(3.30)	(3.56)	(3.56)
	Average effect (parcels within 0.5 miles of open space)	54.70**	50.32**	26.33**	25.88**	22.37**
		(15.55)	(16.58)	(7.58)	(7.64)	(7.52)
1996-2009	Average effect (all parcels)	19.30**	7.92+	13.83**	6.21+	4.42
		(4.67)	(4.35)	(3.76)	(3.64)	(3.64)
	Average effect (parcels within 0.5 miles of open space)	26.55**	11.35	19.13**	9.34	6.51
		(7.50)	(6.93)	(6.08)	(5.85)	(5.83)
	Time Dummies	Yes	Yes	Yes	Yes	Yes
	Municipality Dummies	No	No	No	Yes	No
	Municipality Dummies *Time Dummies	No	Yes	No	No	Yes
	Correlated Random Effects	No	No	Yes	Yes	Yes

Note: Standard errors in parentheses. The average effects are presented in terms of a percentage change in the number of new lots per acre on a 0-100 scale. + p < 0.10, *p<0.05, **p<0.01

Table S9: Post-estimation regression results with categorical minimum lot size and separated by time period

Variables	Coef.	Std. Err.	t	P>t
Dependent variable (y) = proportion change in new parcels				
open space size (acres)	0.0000978	0.0000368	2.66	0.009
substitutability ($y \leq 0$)	-0.454	0.135	-3.36	0.001
substitutability ($y > 0$)	3.572	0.643	5.55	0.000
proportion of agricultural parcels	-0.111	0.0998	-1.12	0.267
constant	-0.391	0.0608	-6.43	0.000

Note: Municipality dummies not reported.

Table S10: Two-stage Heckman parameter estimates for agricultural parcels 1978-1995 with categorical minimum lot size and separated by time period

	Model 1	**Model 2**	**Model 3**	**Model 4**	**Model 5**
Selection model: Dependent variable is binary subdivision decision					
split	-0.278**	-0.334**	-0.327	-0.117	-0.0373
	(0.0922)	(0.0977)	(0.663)	(0.675)	(0.673)
open_dist	-1.045**	-0.975**	-0.923**	-0.887*	-0.908**
	(0.248)	(0.289)	(0.309)	(0.346)	(0.351)
$open\_dist^2$	1.369**	1.615**	1.342**	1.614**	1.579**
	(0.320)	(0.409)	(0.326)	(0.418)	(0.422)
$open\_dist^3$	-0.622**	-0.796**	-0.596**	-0.779**	-0.759**
	(0.141)	(0.204)	(0.143)	(0.209)	(0.211)
$open\_dist^4$	0.0823**	0.118**	0.0777**	0.114**	0.111**
	(0.0186)	(0.0323)	(0.0188)	(0.0331)	(0.0333)
open_dist*open_size	-0.0000659	-0.0000599	-0.0000407	-0.0000823	-0.0000493
(open_big = 0)	(0.0000687)	(0.0000823)	(0.0000702)	(0.0000830)	(0.0000854)
open_dist*open_size	0.0000844**	-0.0000218	-0.000120+	-0.000136*	-0.000134*
(open_big = 1)	(0.0000164)	(0.0000196)	(0.0000620)	(0.0000554)	(0.0000561)
$minlot_1$	0.671	2.684**	-3.674**	-1.723	-1.534
	(0.410)	(0.864)	(1.215)	(1.441)	(1.667)
$minlot_2$	0.664	3.051**	-2.655*	-0.310	-0.258
	(0.411)	(0.856)	(1.147)	(1.355)	(1.591)
$minlot_3$	-0.343	1.223	-0.251	1.043	1.106
	(0.441)	(0.840)	(1.106)	(1.210)	(1.471)
$minlot_4$	(omitted)	(omitted)	(omitted)	(omitted)	(omitted)
area	0.00408**	0.00580**	0.00474**	0.00609**	0.00630**
	(0.000659)	(0.000713)	(0.000673)	(0.000725)	(0.000733)
$area^2$	-4.87E-06**	-7.63E-06**	-6.15E-06**	-8.14 E-06**	-8.41 E-06**
	(1.72E-06)	(1.80E-06)	(1.73E-06)	(1.8E-060)	(1.8E-062)
shore_dist	-0.139**	-0.214**	-0.134**	-0.201**	-0.209**
	(0.0197)	(0.0280)	(0.0202)	(0.0286)	(0.0291)
bay_dummy	-0.241**	0.0197	-0.269**	-0.00691	0.00325
	(0.0489)	(0.0820)	(0.0511)	(0.0845)	(0.0858)
gb_dist	0.00222	0.0229+	-0.000361	0.0214	0.0188
	(0.00168)	(0.0129)	(0.00175)	(0.0131)	(0.0134)
pbsmnt	0.258**	0.0243	0.257**	0.0219	0.0168
	(0.0668)	(0.0756)	(0.0687)	(0.0767)	(0.0778)
pslope	0.597*	0.480	0.565+	0.479	0.494
	(0.301)	(0.326)	(0.307)	(0.330)	(0.335)
pflood	-0.711**	-1.003**	-0.782**	-1.066**	-1.092**
	(0.190)	(0.218)	(0.195)	(0.220)	(0.225)
mean(minlot)			-0.248**	-0.221**	-0.225**
			(0.0429)	(0.0474)	(0.0472)
mean(open_dist)			-0.129	-0.104	-0.0720
			(0.178)	(0.181)	(0.184)
mean(split)			0.00909	-0.273	-0.353
			(0.675)	(0.690)	(0.688)
mean(open_dist*open_size			0.000241**	0.000140*	0.000137*

*open_big)					
			(0.0000643)	(0.0000588)	(0.0000592)
constant	-2.460**	-4.801**	1.290	-1.674	-1.578
	(0.428)	(1.148)	(1.362)	(1.765)	(1.962)
Outcome model: Dependent variable is the natural log of the number of lots per acre					
open_dist	-2.401	-1.212	-0.239	0.127	0.266
	(1.569)	(1.494)	(0.518)	(0.640)	(0.628)
$open\_dist^2$	3.322	2.474	0.450	0.357	0.0831
	(2.063)	(2.377)	(0.690)	(1.053)	(1.035)
$open\_dist^3$	-1.543+	-1.241	-0.217	-0.217	-0.0948
	(0.933)	(1.253)	(0.309)	(0.598)	(0.596)
$open\_dist^4$	0.207+	0.179	0.0313	0.0303	0.0211
	(0.123)	(0.207)	(0.0401)	(0.107)	(0.109)
open_dist*open_size	-0.000108	0.000286	0.00000923	-0.000172	0.000350+
(open_big = 0)	(0.000260)	(0.000366)	(0.000132)	(0.000152)	(0.000204)
open_dist*open_size	0.000226+	-0.0000449	0.0000639	-0.0000202	-0.00000134
(open_big = 1)	(0.000120)	(0.0000698)	(0.0000396)	(0.0000335)	(0.0000330)
$minlot_1$	2.604	3.475+	-0.154	1.007	0.693
	(1.769)	(2.106)	(1.042)	(1.312)	(1.134)
$minlot_2$	2.493	4.417+	-0.158	1.418	1.115
	(1.750)	(2.285)	(1.045)	(1.330)	(1.134)
$minlot_3$	0.304	0.336	-0.300	0.862	0.407
	(1.710)	(2.247)	(1.209)	(1.393)	(1.281)
$minlot_4$	(omitted)	(omitted)	(omitted)	(omitted)	(omitted)
area	-0.00670	-0.00332	-0.0153**	-0.0140**	-0.0133**
	(0.00587)	(0.00674)	(0.00156)	(0.00165)	(0.00161)
$area^2$	5.12E-06	-3.33E-07	1.51E-05**	1.36E-05**	1.26E-05**
	(8.48E-06)	(9.85E-06)	(2.58E-06)	(2.73E-06)	(2.68E-06)
shore_dist	-0.404*	-0.703**	-0.110*	-0.302**	-0.314**
	(0.185)	(0.247)	(0.0484)	(0.0682)	(0.0663)
bay_dummy	-0.596+	0.0489	-0.134	-0.0708	-0.0325
	(0.340)	(0.299)	(0.111)	(0.149)	(0.148)
GB_dist	0.00424	0.0285	-0.00117	-0.00315	0.000282
	(0.00692)	(0.0527)	(0.00332)	(0.0249)	(0.0247)
pbsmnt	0.449	-0.171	-0.0868	-0.191	-0.213
	(0.400)	(0.269)	(0.137)	(0.137)	(0.135)
pslope	1.872	2.006	0.499	0.652	1.038+
	(1.344)	(1.242)	(0.591)	(0.582)	(0.562)
pflood	-2.739*	-3.123*	-1.318**	-1.306**	-1.435**
	(1.120)	(1.283)	(0.422)	(0.447)	(0.436)
constant	-11.17**	-11.05*	-3.099**	-3.576+	-3.742**
	(4.271)	(4.471)	(1.010)	(1.993)	(1.371)
Inverse mills ratio	3.045*	2.802*	0.703**	0.746**	0.784**
	(1.390)	(1.215)	(0.263)	(0.233)	(0.224)
N	18188	18188	18188	18188	18188

Note: Standard errors in parentheses. Time dummies, interaction terms between municipality and time dummies, and the sample averages of the time dummies in the CRE Models 2,4, and 5 not reported. +p<0.10, *p<0.05, **p<0.01

Table S11: Two-stage Heckman parameter estimates for agricultural parcels 1996-2009 with categorical minimum lot size and separated by time period

	Model 1	**Model 2**	**Model 3**	**Model 4**	**Model 5**
Selection model: Dependent variable is binary subdivision decision					
split	-0.278+	-0.295	-0.231	-0.580	-0.631
	(0.162)	(0.189)	(0.350)	(0.439)	(0.460)
open_dist	2.922*	3.615**	2.732+	2.511	2.274
	(1.197)	(1.379)	(1.413)	(1.547)	(1.618)
$open\_dist^2$	-6.563*	-7.529*	-7.417*	-6.823*	-6.430+
	(2.670)	(3.079)	(3.135)	(3.414)	(3.546)
$open\_dist^3$	4.387*	4.900*	5.454*	4.880+	4.361
	(2.066)	(2.376)	(2.453)	(2.660)	(2.760)
$open\_dist^4$	-0.952+	-1.038+	-1.289*	-1.118+	-0.942
	(0.510)	(0.583)	(0.610)	(0.659)	(0.683)
open_dist*open_size	-0.0000492	-0.00000944	0.000169	0.000338	0.000277
(open_big = 0)	(0.000220)	(0.000253)	(0.000230)	(0.000266)	(0.000282)
open_dist*open_size	0.000275*	0.0000273	0.00629	0.00568	0.00558
(open_big = 1)	(0.000116)	(0.000130)	(0.00393)	(0.00440)	(0.00445)
$minlot_1$	2.456**	3.545**	-1.165*	0.233	-0.0431
	(0.360)	(0.622)	(0.583)	(0.786)	(0.876)
$minlot_2$	2.113**	2.559**	-1.313*	-0.575	-0.743
	(0.301)	(0.513)	(0.522)	(0.659)	(0.746)
$minlot_3$	-1.006**	-0.526	-3.054**	-2.239**	-2.568**
	(0.249)	(0.470)	(0.378)	(0.522)	(0.601)
$minlot_4$	(omitted)	(omitted)	(omitted)	(omitted)	(omitted)
area	-0.00344	-0.000987	-0.00120	-0.000787	0.000506
	(0.00285)	(0.00347)	(0.00341)	(0.00406)	(0.00448)
$area^2$	1.32E-05+	6.43E-06	9.05E-06	6.23E-06	2.91E-06
	(6.91E-06)	(8.61E-06)	(8.54E-06)	(1.08E-05)	(1.26E-05)
shore_dist	0.00400	-0.303**	-0.0366	-0.345**	-0.401**
	(0.0476)	(0.0994)	(0.0542)	(0.108)	(0.120)
bay_dummy	-0.0377	-0.618*	-0.139	-0.579+	-0.668+
	(0.142)	(0.304)	(0.169)	(0.349)	(0.368)
gb_dist	0.0151**	-0.175**	0.0141*	-0.164**	-0.183**
	(0.00493)	(0.0441)	(0.00569)	(0.0491)	(0.0523)
pbsmnt	0.0510	-0.162	-0.0842	-0.149	-0.132
	(0.191)	(0.237)	(0.219)	(0.261)	(0.273)
pslope	0.00845	0.136	0.775	0.700	0.670
	(0.883)	(1.017)	(1.042)	(1.149)	(1.181)
pflood	0.591	1.219+	0.151	0.787	0.570
	(0.518)	(0.626)	(0.647)	(0.749)	(0.800)
mean(minlot)			-0.158**	-0.143**	-0.159**
			(0.0195)	(0.0219)	(0.0244)
mean(open_dist)			0.211	0.215	0.432
			(0.307)	(0.356)	(0.388)
mean(split)			0.0261	0.413	0.456
			(0.397)	(0.479)	(0.503)
mean(open_dist*open_size			-0.00600	-0.00560	-0.00550

*open_big)					
			(0.00391)	(0.00438)	(0.00443)
constant	-1.770**	10.60**	0.993	11.84**	13.11**
	(0.497)	(2.648)	(0.701)	(2.959)	(3.184)
Outcome model: Dependent variable is the natural log of the number of lots per acre					
open_dist	0.752	1.571	0.573	1.133	1.656
	(1.169)	(1.041)	(1.001)	(1.020)	(1.026)
open_dist^2	-1.085	-2.382	-0.669	-1.506	-2.557
	(2.686)	(2.394)	(2.336)	(2.357)	(2.371)
open_dist^3	0.184	1.068	-0.0841	0.448	1.196
	(2.085)	(1.919)	(1.886)	(1.900)	(1.913)
open_dist^4	0.0787	-0.0914	0.136	0.0373	-0.122
	(0.521)	(0.491)	(0.484)	(0.487)	(0.490)
open_dist*open_size	0.000408*	0.000424**	0.000407**	0.000401*	0.000414*
(open_big = 0)	(0.000161)	(0.000163)	(0.000155)	(0.000157)	(0.000164)
open_dist*open_size	0.0000367	-0.0000376	0.0000212	-0.0000481	-0.0000357
(open_big = 1)	(0.0000717)	(0.0000537)	(0.0000547)	(0.0000555)	(0.0000538)
minlot$_1$	1.161	0.716	0.987*	1.258**	0.882+
	(0.808)	(0.554)	(0.412)	(0.441)	(0.478)
minlot$_2$	0.493	0.0291	0.333	0.456	0.162
	(0.711)	(0.447)	(0.364)	(0.355)	(0.400)
minlot$_3$	-0.529	-0.208	-0.213	0.146	-0.131
	(0.521)	(0.405)	(0.324)	(0.344)	(0.378)
minlot$_4$	(omitted)	(omitted)	(omitted)	(omitted)	(omitted)
area	-0.0314**	-0.0295**	-0.0310**	-0.0294**	-0.0294**
	(0.00198)	(0.00199)	(0.00190)	(0.00195)	(0.00199)
area^2	0.0000644**	0.0000608**	0.0000631**	0.0000597**	0.0000608**
	(0.00000669)	(0.00000645)	(0.00000615)	(0.00000628)	(0.00000642)
shore_dist	0.0132	-0.171*	0.0152	-0.148+	-0.173*
	(0.0397)	(0.0796)	(0.0392)	(0.0789)	(0.0796)
bay_dummy	0.186+	-0.0851	0.180+	-0.0374	-0.0937
	(0.110)	(0.182)	(0.109)	(0.187)	(0.182)
GB_dist	0.00417	0.0768*	0.00342	0.0624*	0.0751*
	(0.00535)	(0.0345)	(0.00434)	(0.0308)	(0.0310)
pbsmnt	-0.0726	-0.225	-0.0746	-0.245	-0.227
	(0.140)	(0.152)	(0.136)	(0.151)	(0.152)
pslope	-0.0870	-0.0795	-0.114	-0.162	-0.0906
	(0.534)	(0.509)	(0.522)	(0.527)	(0.511)
pflood	-0.660	-0.653	-0.687	-0.485	-0.614
	(0.482)	(0.481)	(0.465)	(0.480)	(0.472)
constant	-2.497*	-5.776**	-2.277**	-5.383**	-5.830**
	(1.111)	(1.880)	(0.578)	(1.762)	(1.765)
Inverse mills ratio	0.436	0.102	0.323+	0.344*	0.214
	(0.521)	(0.276)	(0.175)	(0.174)	(0.173)
N	3010	3010	3010	3010	3010

Note: Standard errors in parentheses. Time dummies, interaction terms between municipality and time dummies, and the sample averages of the time dummies in the CRE Models 2, 4, and 5 not reported. +p<0.10, *p<0.05, **p<0.01

Table S12: Two-stage Heckman parameter estimates for residential parcels 1978-1995 with categorical minimum lot size and separated by time period

	Model 1	**Model 2**	**Model 3**	**Model 4**	**Model 5**
Selection model: Dependent variable is binary subdivision decision					
split	-0.953**	-1.050**	0.181	0.0500	-0.176
	(0.145)	(0.163)	(0.754)	(0.765)	(0.772)
open_dist	-0.999**	-1.063**	-1.282**	-1.272**	-0.988*
	(0.269)	(0.281)	(0.366)	(0.352)	(0.401)
$open\_dist^2$	1.019**	0.989**	1.194**	1.166**	1.167**
	(0.347)	(0.361)	(0.371)	(0.386)	(0.391)
$open\_dist^3$	-0.410**	-0.372*	-0.502**	-0.440**	-0.451**
	(0.145)	(0.152)	(0.156)	(0.164)	(0.167)
$open\_dist^4$	0.0534**	0.0491*	0.0668**	0.0532*	0.0587**
	(0.0180)	(0.0194)	(0.0197)	(0.0210)	(0.0218)
open_dist*open_size	0.000184+	0.000461**	0.000353**	0.000295*	0.000470**
(open_big = 0)	(0.0000938)	(0.000157)	(0.000101)	(0.000119)	(0.000160)
open_dist*open_size	-0.0000236	0.00000318	-0.0000193	0.0000171	-0.0000663
(open_big = 1)	(0.0000248)	(0.0000265)	(0.000137)	(0.000144)	(0.000153)
$minlot_1$	-0.773**	-0.876**	-1.604**	-1.620**	-1.689**
	(0.263)	(0.280)	(0.595)	(0.600)	(0.618)
$minlot_2$	(omitted)	(omitted)	(omitted)	(omitted)	(omitted)
$minlot_3$	(omitted)	(omitted)	(omitted)	(omitted)	(omitted)
$minlot_4$	(omitted)	(omitted)	(omitted)	(omitted)	(omitted)
area	0.0285**	0.0294**	0.0253**	0.0257**	0.0263**
	(0.00123)	(0.00130)	(0.00128)	(0.00131)	(0.00135)
$area^2$	-6.74E-05**	-6.96E-05**	-5.87E-05**	-5.85E-05**	-6.00E-05**
	(4.40E-06)	(4.57E-06)	(4.49E-06)	(4.56E-06)	(4.69E-06)
shore_dist	0.00876	-0.00893	-0.112*	-0.0829	-0.0800
	(0.0445)	(0.0581)	(0.0487)	(0.0599)	(0.0633)
bay_dummy	0.0102	0.0686	-0.0696	0.0813	0.121
	(0.0541)	(0.0991)	(0.0582)	(0.104)	(0.107)
gb_dist	-0.00612**	-0.0194	-0.0112**	-0.0310*	-0.0276*
	(0.00195)	(0.0126)	(0.00231)	(0.0131)	(0.0137)
pbsmnt	0.00824	0.0476	-0.0657	0.00145	0.00953
	(0.0672)	(0.0735)	(0.0740)	(0.0809)	(0.0827)
pslope	-0.201	-0.204	-0.0926	0.0183	0.0916
	(0.213)	(0.221)	(0.234)	(0.239)	(0.244)
pflood	-0.0680	-0.0921	-0.207	-0.289	-0.268
	(0.193)	(0.209)	(0.206)	(0.220)	(0.226)
mean(open_dist)			0.157	0.0714	-0.218
			(0.224)	(0.199)	(0.264)
mean(minlot)			-0.254	-0.300	-0.311
			(0.226)	(0.230)	(0.240)
mean(split)			-1.305+	-1.245	-1.015
			(0.781)	(0.793)	(0.800)
mean(open_dist*open_size			0.0000104	-0.00000629	0.0000839

*open_big)					
			(0.000141)	(0.000147)	(0.000156)
constant	-0.756*	-0.0705	-3.176**	-2.729*	-3.532**
	(0.319)	(0.858)	(0.802)	(1.110)	(1.191)
Outcome model: Dependent variable is the natural log of the number of lots per acre					
open_dist	-3.278**	-3.165**	-1.396**	-1.500**	-1.340*
	(1.071)	(1.133)	(0.534)	(0.535)	(0.528)
$open\_dist^2$	3.098*	3.004*	1.074	1.476*	1.261+
	(1.337)	(1.363)	(0.701)	(0.699)	(0.694)
$open\_dist^3$	-1.123*	-1.098+	-0.319	-0.495+	-0.437
	(0.561)	(0.587)	(0.300)	(0.300)	(0.309)
$open\_dist^4$	0.135+	0.145+	0.0325	0.0543	0.0588
	(0.0702)	(0.0823)	(0.0376)	(0.0379)	(0.0440)
open_dist*open_size	0.000143	0.000778	-0.000269	-0.000493*	-0.00000212
(open_big = 0)	(0.000334)	(0.000622)	(0.000177)	(0.000207)	(0.000366)
open_dist*open_size	-0.0000834	-0.0000244	-0.0000579	-0.0000326	-0.0000246
(open_big = 1)	(0.0000771)	(0.0000755)	(0.0000405)	(0.0000419)	(0.0000407)
$minlot_1$	-1.136	-1.280	0.165	0.423	0.114
	(0.897)	(0.957)	(0.454)	(0.440)	(0.470)
$minlot_2$	(omitted)	(omitted)	(omitted)	(omitted)	(omitted)
$minlot_3$	(omitted)	(omitted)	(omitted)	(omitted)	(omitted)
$minlot_4$	(omitted)	(omitted)	(omitted)	(omitted)	(omitted)
area	0.0355*	0.0307+	-0.0155**	-0.0150**	-0.0156**
	(0.0147)	(0.0168)	(0.00351)	(0.00339)	(0.00345)
$area^2$	-9.66E-05**	-8.59E-05*	2.59E-05**	2.51E-05**	2.60E-05**
	(3.62E-05)	(4.10E-05)	(8.96E-06)	(8.64E-06)	(8.71E-06)
shore_dist	-0.0831	-0.194	-0.0477	-0.206*	-0.240*
	(0.149)	(0.185)	(0.0830)	(0.103)	(0.104)
bay_dummy	-0.124	0.0786	-0.191+	-0.122	-0.0185
	(0.184)	(0.325)	(0.107)	(0.176)	(0.189)
GB_dist	-0.0231**	-0.0104	-0.0155**	0.0108	0.0194
	(0.00690)	(0.0419)	(0.00397)	(0.0234)	(0.0239)
pbsmnt	-0.265	-0.0674	-0.346*	-0.272+	-0.184
	(0.241)	(0.258)	(0.151)	(0.159)	(0.160)
pslope	-0.750	-0.494	-0.626	-0.570	-0.166
	(0.801)	(0.857)	(0.536)	(0.556)	(0.579)
pflood	-0.812	-0.448	-0.569	-0.376	-0.213
	(0.707)	(0.713)	(0.421)	(0.419)	(0.419)
constant	-4.675**	-5.115+	-1.085+	-2.739+	-3.356*
	(1.358)	(2.785)	(0.590)	(1.483)	(1.607)
Inverse mills ratio	2.748**	2.458**	0.529**	0.492**	0.450**
	(0.609)	(0.703)	(0.153)	(0.149)	(0.155)
N	20980	20980	20980	20980	20980

Note: Standard errors in parentheses. Time dummies, interaction terms between municipality and time dummies, and the sample averages of the time dummies in the CRE Models 2, 4, and 5 not reported. +p<0.10, *p<0.05, **p<0.01

Table S13: Two-stage Heckman parameter estimates for residential parcels 1996-2009 with categorical minimum lot size and separated by time period

	Model 1	Model 2	Model 3	Model 4	Model 5
Selection model: Dependent variable is binary subdivision decision					
split	-0.469**	-0.490**	-0.608**	-0.605**	-0.555**
	(0.0421)	(0.0432)	(0.108)	(0.110)	(0.111)
open_dist	-1.432**	-1.434**	-1.330**	-1.429**	-1.403**
	(0.396)	(0.409)	(0.420)	(0.429)	(0.434)
$open\_dist^2$	3.105**	3.442**	2.938**	3.408**	3.416**
	(0.979)	(1.008)	(0.996)	(1.017)	(1.027)
$open\_dist^3$	-2.446**	-2.743**	-2.250**	-2.697**	-2.683**
	(0.831)	(0.858)	(0.848)	(0.867)	(0.877)
$open\_dist^4$	0.598**	0.669**	0.542*	0.658**	0.649**
	(0.220)	(0.227)	(0.225)	(0.230)	(0.233)
open_dist*open_size	0.0000697	0.00000690	0.000132	0.0000440	0.0000347
(open_big = 0)	(0.0000827)	(0.0000882)	(0.0000853)	(0.0000891)	(0.0000903)
open_dist*open_size	-0.000167**	-0.000130*	-0.000460*	-0.000462*	-0.000324+
(open_big = 1)	(0.0000591)	(0.0000625)	(0.000193)	(0.000195)	(0.000188)
$minlot_1$	-0.108*	-0.0942	-0.219**	-0.161+	-0.160+
	(0.0553)	(0.0617)	(0.0738)	(0.0885)	(0.0882)
$minlot_2$	(omitted)	(omitted)	(omitted)	(omitted)	(omitted)
$minlot_3$	(omitted)	(omitted)	(omitted)	(omitted)	(omitted)
$minlot_4$	(omitted)	(omitted)	(omitted)	(omitted)	(omitted)
area	0.00926**	0.00966**	0.0109**	0.0106**	0.0105**
	(0.00133)	(0.00136)	(0.00143)	(0.00145)	(0.00146)
$area^2$	-1.02E-05**	-1.04E-05**	-1.25E-05**	-1.20E-05**	-1.19E-05**
	(2.43E-06)	(2.44E-06)	(2.48E-06)	(2.50E-06)	(2.50E-06)
shore_dist	-0.190**	-0.239**	-0.183**	-0.213**	-0.220**
	(0.0421)	(0.0487)	(0.0432)	(0.0505)	(0.0505)
bay_dummy	0.173**	0.118	0.193**	0.139+	0.122
	(0.0436)	(0.0786)	(0.0453)	(0.0803)	(0.0802)
gb_dist	0.00307*	0.0141	0.00273*	0.0135	0.0105
	(0.00127)	(0.00901)	(0.00137)	(0.00917)	(0.00922)
pbsmnt	-0.00873	-0.0719	-0.0139	-0.0643	-0.0610
	(0.0489)	(0.0520)	(0.0496)	(0.0525)	(0.0530)
pslope	0.113	0.0864	0.144	0.104	0.0832
	(0.129)	(0.135)	(0.131)	(0.135)	(0.137)
pflood	0.203	0.198	0.278*	0.264+	0.270+
	(0.135)	(0.139)	(0.136)	(0.140)	(0.141)
mean(open_dist)			-0.0892	-0.0312	-0.0795
			(0.107)	(0.113)	(0.116)
mean(minlot)			0.00232	0.0223	0.0218
			(0.0244)	(0.0270)	(0.0272)
mean(split)			0.171	0.139	0.0766
			(0.123)	(0.125)	(0.127)
mean(open_dist*open_size			0.000329+	0.000335+	0.000234

*open_big)					
			(0.000188)	(0.000190)	(0.000184)
constant	-0.658**	-1.273*	-0.384**	-1.033+	-0.895
	(0.118)	(0.549)	(0.144)	(0.565)	(0.571)
Outcome model: Dependent variable is the natural log of the number of lots per acre					
open_dist	-2.103**	-1.284+	-1.455*	-0.969+	-0.806
	(0.732)	(0.678)	(0.598)	(0.576)	(0.571)
$open\_dist^2$	4.140*	3.780*	2.621+	2.755+	2.552+
	(1.786)	(1.650)	(1.463)	(1.406)	(1.388)
$open\_dist^3$	-3.399*	-3.444*	-2.139+	-2.535*	-2.416*
	(1.501)	(1.385)	(1.231)	(1.182)	(1.164)
$open\_dist^4$	0.895*	0.935**	0.578+	0.710*	0.679*
	(0.393)	(0.361)	(0.322)	(0.309)	(0.303)
open_dist*open_size	-0.000112	-0.000247+	-0.000104	-0.000213+	-0.000237+
(open_big = 0)	(0.000148)	(0.000141)	(0.000126)	(0.000123)	(0.000122)
open_dist*open_size	-0.0000616	-0.000215+	0.0000641	-0.000169	-0.000125
(open_big = 1)	(0.000125)	(0.000120)	(0.000113)	(0.000115)	(0.000112)
$minlot_1$	0.788**	0.951**	0.786**	0.935**	0.931**
	(0.0948)	(0.0948)	(0.0779)	(0.0810)	(0.0805)
$minlot_2$	0	0	0	0	0
	(.)	(.)	(.)	(.)	(.)
$minlot_3$	0	0	0	0	0
	(.)	(.)	(.)	(.)	(.)
$minlot_4$	0	0	0	0	0
	(.)	(.)	(.)	(.)	(.)
area	-0.0153**	-0.0155**	-0.0216**	-0.0208**	-0.0204**
	(0.00280)	(0.00254)	(0.00191)	(0.00182)	(0.00179)
$area^2$	1.35E-05**	1.43E-05**	2.03E-05**	2.00E-05**	1.96E-05**
	(3.98E-06)	(3.57E-06)	(2.72E-06)	(2.59E-06)	(2.53E-06)
shore_dist	-0.216**	-0.208*	-0.115+	-0.108	-0.107
	(0.0782)	(0.0859)	(0.0640)	(0.0739)	(0.0737)
bay_dummy	0.276**	-0.0609	0.183**	-0.137	-0.161
	(0.0816)	(0.126)	(0.0661)	(0.110)	(0.108)
GB_dist	-0.00303	0.0477**	-0.00535**	0.0342**	0.0369**
	(0.00233)	(0.0147)	(0.00192)	(0.0128)	(0.0126)
pbsmnt	-0.0727	-0.235**	-0.0957	-0.217**	-0.234**
	(0.0871)	(0.0827)	(0.0729)	(0.0724)	(0.0711)
pslope	0.217	0.267	0.186	0.250	0.231
	(0.225)	(0.210)	(0.186)	(0.181)	(0.177)
pflood	0.119	0.165	0.0890	0.124	0.111
	(0.240)	(0.224)	(0.201)	(0.196)	(0.193)
constant	-3.128**	-5.933**	-1.962**	-4.272**	-4.494**
	(0.355)	(0.952)	(0.233)	(0.799)	(0.785)
Inverse mills ratio	1.499**	1.310**	0.779**	0.775**	0.747**
	(0.200)	(0.180)	(0.120)	(0.110)	(0.109)
N	10350	10350	10350	10350	10350

Note: Standard errors in parentheses. Time dummies, interaction terms between municipality and time dummies, and the sample averages of the time dummies in the CRE Models 2, 4, and 5 not reported. +p<0.10, *p<0.05, **p<0.01

Table S14: Average marginal effects on the probability of subdivision (percentage points) for our preferred model (Model 5) with categorical minimum lot size and separated by time period

Variable	**Agricultural**		**Residential**	
	1978-1995	1996-2009	1978-1995	1996-2009
split	-0.00191	-0.0205	-0.00586	-0.0804**
	(0.0345)	(0.0150)	(0.0257)	(0.0160)
open_size	-2.72e-06	0.0000107	9.87e-06**	-0.0573*
	(3.23e-06)	(7.46e-06)	(3.51e-06)	(0.0244)
open_big	-0.00312	0.0855+	-0.0145**	-0.00654
	(0.00440)	(0.0497)	(0.00547)	(0.00434)
$minlot_1$	-0.0787	-0.00140	-0.0562**	-0.0231+
	(0.0856)	(0.0285)	(0.0206)	(0.0128)
$minlot_2$	-0.0132	-0.0242	(omitted)	(omitted)
	(0.0816)	(0.0243)		
$minlot_3$	0.0567	-0.08367**	(omitted)	(omitted)
	(0.0755)	(0.0196)		
$minlot_4$	(omitted)	(omitted)	(omitted)	(omitted)
area	0.000277**	0.0000275	0.000771**	0.00149**
	(0.0000293)	(0.000104)	(0.0000438)	(0.000205)
shore_dist	-0.0107**	-0.0131**	-0.00266	-0.0319**
	(0.00152)	(0.00394)	(0.00211)	(0.00731)
bay_dummy	0.000167	-0.0218+	0.00404	0.0176
	(0.00440)	(0.0120)	(0.00357)	(0.0116)
gb_dist	0.000966	-0.00597**	-0.000920*	0.00152
	(0.000686)	(0.00171)	(0.000456)	(.00134)
pbsmnt	0.000863	-0.00430	0.000317	-0.00883
	(0.00399)	(0.00889)	(0.00275)	(0.00767)
pslope	0.0253	0.0218	0.00305	0.0120
	(0.0172)	(0.0385)	(0.00813)	(0.0198)
pflood	-0.0560**	0.0186	-0.00892	0.0391+
	(0.0116)	(0.0261)	(0.00752)	(0.0204)
mean(minlot)	-0.0115**	-0.00519**	-0.0104	0.00315
	(0.00244)	(.000800)	(0.00800)	(0.00393)
mean(open_dist)	0.000763	-0.0153	-0.00610	-0.00371
	(0.00917)	(0.0278)	(0.00895)	(0.0175)
mean(split)	-0.0181	0.0148	-0.0338	0.0110
	(0.0353)	(0.0164)	(0.0267)	(0.0184)
mean(open_size)	9.96e-07*	-5.56e-06	2.58e-07	4.97e-07
	(4.57e-07)	(4.73e-06)	(4.82e-07)	(4.16e-07)
mean(open_big)	0.00451	-0.0507	0.00112	0.00423
	(0.00204)	(0.0412)	(0.00209)	(0.00341)

Note: Standard errors in parentheses. The average effects are presented in terms of a percentage change in the number of new lots per acre on a 0-100 scale. + p < 0.10, *p<0.05, **p<0.01

Table S15: Average marginal effects on the number of lots per acre (percentage change) for our preferred model (Model 5) with categorical minimum lot size and separated by time period

Variable	**Agricultural**		**Residential**	
	1978-1995	1996-2009	1978-1995	1996-2009
open_size	0.000333+ (0.000195)	0.000382* (0.000151)	-2.56e-06 (0.000250)	-0.000107* (0.0000538)
open_big	-0.149+ (0.0854)	-0.0880** (0.0326)	-0.00494 (0.0781)	0.0142 (.0206)
$minlot_1$	0.693 (1.133)	0.882+ (0.478)	0.114 (0.470)	0.931** (0.0805)
$minlot_2$	1.115 (1.134)	0.162 (0.400)	(omitted)	(omitted)
$minlot_3$	0.407 (1.281)	-0.130 (0.378)	(omitted)	(omitted)
$minlot_4$	(omitted)	(omitted)	(omitted)	(omitted)
area	-0.0121** (0.00139)	-0.0192** (0.00113)	-0.0153** (0.00336)	-0.0202** (0.00176)
shore_dist	-0.314** (0.0663)	-0.173* (0.0796)	-0.240* (0.104)	-0.107 (0.0737)
bay_dummy	-0.0325 (0.148)	-0.0937 (0.182)	-0.0185 (0.189)	-0.161 (0.108)
gb_dist	0.000282 (0.0247)	0.0751* (0.0310)	0.0194 (0.0239)	0.0369** (0.0126)
pbsmnt	-0.213 (0.135)	-0.227 (0.152)	-0.184 (0.160)	-0.234** (0.0711)
pslope	1.038+ (0.562)	-0.0906 (0.511)	-0.166 (0.579)	0.231 (0.177)
pflood	-1.435** (0.436)	-0.614 (0.472)	-0.213 (0.419)	0.111 (0.193)

Note: Standard errors in parentheses. The average effects are presented in terms of a percentage change in the number of new lots per acre on a 0-100 scale. + p < 0.10, *p<0.05, **p<0.01

Table S16: Average partial effects with the additional open space variable (percentage open space in a half-mile radius)

Average partial effect	Variable change	Average effect	Average effect (parcels within 0.5 miles)	Average effect	Average effect (parcels within 0.5 miles)
		Agriculture		Residential	
probability of subdivision (percentage points)	quarter-mile decrease in the distance to open space	0.396+ (0.238)	1.527** (0.481)	0.566* (0.230)	1.146** (0.346)
	one percentage point increase in the density of open space in a half mile radius	-1.99E-04 (1.53E-03)	-2.53E-04 (1.95E-03)	-1.67E-05 (6.91E-04)	-1.9E-05 (7.84E-04)
number of lots per acre (percentage change)	quarter-mile decrease in the distance to open space	-7.73** (2.584)	-17.46* (7.760)	2.456 (2.283)	4.669 (4.412)
	one percentage point increase in the density of open space in a half mile radius	-3.89E-05 (6.02E-03)	-3.89E-05 (6.02E-03)	-0.00169 (0.00377)	-0.00169 (0.00377)

Table S17: Post-estimation regression results with the additional open space variable (percentage open space in a half-mile radius)

Variables	Coef.	Std. Err.	t	P>t
Dependent variable (y) = proportion change in new parcels				
open space size (acres)	0.0000636	0.0000341	1.86	0.064
substitutability ($y \leq 0$)	-0.445	0.104	-4.27	0.000
substitutability ($y > 0$)	1.755	0.331	5.29	0.000
proportion of agricultural parcels	-0.0795	0.0856	-0.93	0.354
constant	-0.252	0.0545	-4.62	0.000

Note: Municipality dummies not reported.

Endnotes

[i] We thank an anonymous reviewer for these suggestions.

[ii] We thank an anonymous reviewer for this suggestion.

[iii] We thank an anonymous reviewer for this suggestion.

[iv] We thank an anonymous reviewer for this suggestion.

[v] We thank an anonymous reviewer for this comment.

[vi] Adding a new conserved open space parcel to a neighborhood with more conserved substitutes leads to a lower increase in net development for open space parcels that increase net development and leads to a lower decrease in net development for open space parcels that decrease net development.