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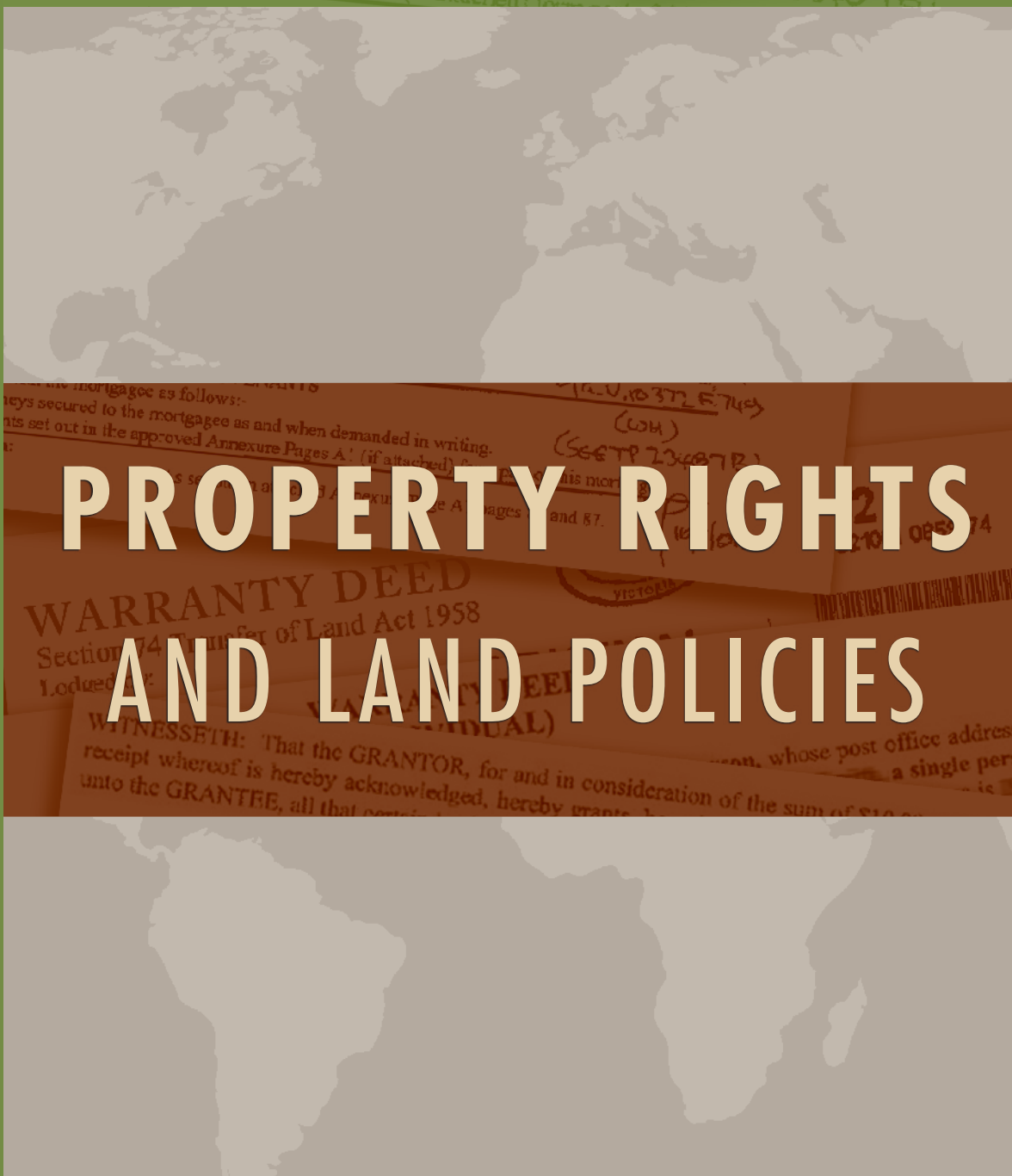

PROPERTY RIGHTS AND LAND POLICIES

Edited by Gregory K. Ingram and Yu-Hung Hong

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The Role of Private-Sector Developers in Challenges to Local Land Use Regulations

Keri-Nicole Dillman and Lynn M. Fisher

Within the last 40 years, a diverse set of state judicial and legislative strategies has been employed to confront exclusionary land use at the local level. These state efforts include, for example, requirements that localities develop written land use plans, that they consider affordable housing needs, and that zoning be consistent. A noteworthy element of some state strategies is the heavy reliance on residential developers, who are empowered to challenge local land use regimes deemed out of compliance with state goals. While nearly half of the states have some form of antiexclusionary land use program, a small but growing subset enlists developers in this way for various and multiple goals (referred to here as "housing appeals regimes"): California, Connecticut, Massachusetts, New Jersey, Pennsylvania, Rhode Island, and most recently Illinois in 2004 and New Hampshire in 2008.

This decades-long and increasing state action is often motivated by the negatively perceived impacts of local land use regulations on housing supply.[1] The early empirical work on the interrelationship of local growth management programs and housing markets was mixed. However, increasingly sophisticated methodologies demonstrate its negative supply effects (Quigley and Raphael

1. Just as local land use regulations have been seen as imposing constraints on housing supply, they can also afford public benefits. As Fischel argues, such ordinances may "accommodate development at a reasonable pace and, by better planning, [improve] the delivery of public services" (1991, 66).

2005; reviewed in Lewis 2005; Nelson et al. 2002; Quigley 2007). Therefore, there is reason to be concerned that local land use regulations limit the development of all housing, both low-income and market-rate units, resulting in high house prices and exacerbating affordability problems.

We know little about the effectiveness of state antiexclusionary zoning efforts.[2] Lewis (2005) reviews the limited literature on state efforts to induce housing production, which he notes as dominated by descriptions of the mandates and their evolution. He concludes that, overall, rigorous evaluation of the effects of state mandates on residential production and affordability is lacking amid a body of descriptive work (Gale 1992; Weitz 1999).

The evolution and implementation of specific housing appeals regimes has been considered in the literature (for example, Krefetz 2001; see Cowan 2006 for a review). However, rigorous estimates of their effects on housing supply are rare. For example, Meck, Retzlaff, and Schwab (2003) review the limited research and provide secondary data on production outcomes associated with these regimes in various states. Whether these developer-driven strategies actually result in greater production than would have occurred otherwise, or as compared to other state antiexclusionary strategies, is unclear.

Only recently has empirical investigation been brought to bear on state antiexclusionary zoning efforts employing developers, and the findings are positive. Cowan (2006) takes advantage of a natural experiment among New England states (Connecticut, Massachusetts, New Hampshire, and Rhode Island) and finds significant impacts from the adoption of state "antisnob zoning" laws on the rate of production of affordable housing in suburban and urban communities. While suggesting that antisnob zoning laws promote the development of affordable housing, this study does not speak to policy impacts on overall housing production or establish causal mechanisms, particularly the role of developers.

Mitchell (2004) considers housing appeals regimes in the neighboring states of Pennsylvania and New Jersey, specifically considering the role of developers. Both states address municipal exclusionary zoning by empowering residential developers to challenge municipalities, but the definitions of eligible projects differ. New Jersey provides developers with relief from zoning restrictions if they agree to include housing for low- and moderate-income families. By contrast, Pennsylvania empowers developers to challenge municipalities when seeking permits for market-rate developments of all housing types. Comparing housing production outcomes in the two states between 1970 and 1990, Mitchell finds that a significantly higher percentage of townhouses and mobile homes was produced in Pennsylvania, while only a slightly larger percentage of

2. Systematically assessing the available knowledge, albeit limited, is further complicated by the inconsistency in nomenclature and focus by scholars examining these state growth management strategies (Weitz 1999).

apartments was produced in New Jersey. The probability that a newly constructed housing unit would be a townhouse, apartment, or mobile home rather than a single-family detached home was significantly higher in Pennsylvania than in New Jersey.

Mitchell's findings are encouraging to those seeking to employ developers in state antiexclusionary zoning efforts. He observes contrasting diversity and density of housing under these regimes. Moreover, while interpreting his findings, he highlights the distinct roles of both developers and municipalities. However, the causal mechanisms are underspecified and unexplored. The research design does not permit direct comparison of contrasting housing outcomes as a result of that state's different program features. The study period, while spanning 20 years, includes only a short period of time when the New Jersey Fair Housing Act was in full operation (as a result of the regime's evolution from the courts to the legislature in the late 1980s). Therefore, while the developer incentives in Pennsylvania may explain the increased density in housing production, that remains to be demonstrated. The observed increases in housing diversity may result from changes to local planning and zoning or may be the result of developer challenges to local zoning on a project-by-project basis.

A more precise framework is necessary in order to get inside the "black box" of these housing appeals regimes: to systematically anticipate the behavior of both developers and municipalities. Recognizing that this is not a one-size-fits-all strategy, we hope to support states' needs to customize policies to their particular housing needs and local governance structures. By clearly articulating the mechanisms (also referred to as "program theory") behind these strategies, we can empower future assessments of their success. Therefore, in this chapter, we develop a conceptual framework that allows us to untangle some of the possible explanations for the observed outcomes in state programs that use developers as agents.

Developer-based programs are particularly worthy of exploration because they highlight the critical role of implementation in intergovernmental efforts. For example, in states requiring local planning for affordable housing, such as Florida and Oregon, there is neither a local obligation to do more than plan nor a mechanism to ensure that affordable housing gets built. Similarly, critical discussions of state efforts to overcome local parochialism have demonstrated that implementation is essential to success (Bengston, Fletcher, and Nelson 2004; Goetz, Chapple, and Luckerman 2003). In their review of lessons learned, Bengston, Fletcher, and Nelson (2004) decide not only that implementation is critical, but that it is difficult. Therefore, these strategies may represent a unique opportunity for administrative efficiency in state growth management programs. Finally, Cowan (2006) observes that the affordable housing production gains through developer-driven strategies often require minimal or no state or federal subsidies, suggesting possible cost savings through developer-driven strategies.

Presenting State Housing Appeals Systems

We are focusing on a set of statutes and judicial standards that provide for state review of local land use decisions.[3] Falling within a broader set of state-sponsored growth management programs, these statutes enlist developers to voluntarily challenge noncompliant localities.[4]

While the enlistment of developers is universal among housing appeals regimes, there is considerable variation in their judicial and legislative features in addition to their intended goals (for example, increased housing production overall or particularly for low-income households). Fully accounting for this programmatic variation falls well outside the scope of this project. However, noting some of the dimensions of variation further motivates our systematic exploration of the one universal feature—the enlistment of developers. A better understanding of this core mechanism will enable systematic evaluation and comparison of this strategy across diverse regimes.

Possibly echoing the diversity of goals within these appeals regimes, the definition of local compliance (or exceptions at law) is an important point of distinction. Compliance is largely defined by the number or level of affordable units that each municipality must provide. Municipal failure to meet these standards renders them susceptible to developer challenge under the appeals regime. The state expectation for municipal planning in order to achieve these standards is also not consistent. More recently, however, municipal protection from the threat of developer challenge is often afforded through planning. The source of the developer right can come from either a state administrative body or the state court system. The schedule of affordable housing requirements for eligible projects (including the proportion of project units that must be set aside as affordable, the income groups intended to be served, and the terms of affordability) varies. Finally, these regimes also include a diverse set of cost offsets to encourage developer participation, such as density bonuses, impact fee waivers or deferrals,

3. Among policy and planning scholars, such statutes are variously referred to as state housing appeals systems (Meck, Retzlaff, and Schwab 2003), appeals statutes (*Harvard Law Review* 1995), and antisnob land use laws (Cowan 2006).

4. Following a typology of state growth management policies developed by Weitz (1999), growth management programs are defined by three essential elements: strong state inducement for local planning, provision for state or regional review of comprehensive plans, and other measures to control or manage growth. The third element does not exist in all growth management states. Therefore, as these state housing appeals regimes exemplify this third element (and a planning focus is not consistent among them), this analogy may be imperfect. Still, Howell-Moroney (2007), building on Weitz, argues that New Jersey represents a weak growth management state, suggesting the usefulness of placing the statutes within the broader growth management context. Reflecting the inconsistency in the literature, these housing appeals regimes have also been categorized as inclusionary zoning programs and fair-share programs (Lewis 2005).

fast-track permitting, and reduced parking requirements. While further examples of diversity exist, the extent of variation is unmistakable.

Our exploration of these regimes focuses on Massachusetts and New Jersey. While something of a convenience sample, these regimes represent the variation. For example, Massachusetts requires that 10 percent of the housing units in all municipalities be affordable, while New Jersey's regime defines distinct affordability requirements (or fair share) for each municipality. Since both were among the earliest states employing this technique, their time and experience afford more and higher-quality data on the programs as well as some outcomes.

THE MASSACHUSETTS COMPREHENSIVE PERMIT LAW

The Massachusetts Comprehensive Permit Law of 1969 establishes an affordable housing goal of a minimum of 10 percent state or federally assisted housing for all Commonwealth municipalities (Massachusetts General Laws, chapter 40B, sections 20–23). Towns are deemed compliant with the goal by demonstrating recent progress toward the 10 percent minimum or (since 2002) by having had a state-certified affordable housing plan (760 CMR 31.07[1][i]). Where towns have failed to achieve this goal, affordable housing developers have the right to appeal local project-specific zoning decisions that effectively bar development. The state's three-member Housing Appeals Committee (HAC) can vacate the local decision and order issuance of a permit. Public agencies, nonprofit developers, and for-profit developers have the right of appeal if they agree to limit their returns and set aside 25 percent of the project's units as affordable to moderate income households.[5]

THE NEW JERSEY FAIR HOUSING ACT

Following the New Jersey Supreme Court decision in *Southern Burlington County N.A.A.C.P. v. Township of Mount Laurel*, 92 N.J. 158, 238 (1983), known as *Mount Laurel II*, the New Jersey Fair Housing Act was passed in 1985 (New Jersey Statutes Annotated, section 52:27D-301 et seq. [1986 and Supplement 1999]). It states that municipalities are obliged to provide the opportunity for the development of affordable housing in the state. Currently, a municipality's fair share is determined by the New Jersey Council on Affordable Housing (COAH), a 12-member administrative body appointed by the governor. To address the requirement, a municipality may complete housing elements and fair-share plans, including amendments to zoning. If the housing elements and fair-share plan makes achievement of fair-share goals "realistically possible," COAH provides the petitioning municipality with "substantive certification" of its compliance.

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5. Moderate income in this case is effectively between 70 and 80 percent of Area Median Income. An alternate but less observed condition is to reserve 20 percent of a project's units for even lower income households (with incomes near 50 percent of Area Median Income) and with correspondingly lower affordable rents or sale prices.

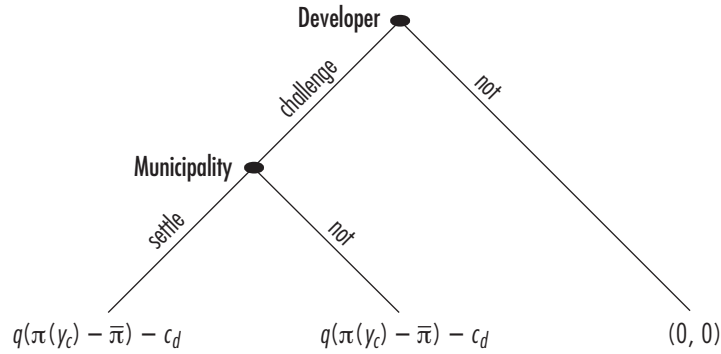
By defining the state's housing goals and local obligations, the New Jersey Fair Housing Act establishes that any local zoning ordinance that denies reasonable opportunity for affordable housing development fails to meet the state's constitutional requirements. Developers are empowered to petition the state courts to declare noncompliant zoning unconstitutional and to receive permission to proceed with affordable housing development. The successful developer-plaintiff is entitled to develop the proposed project as long as at least 20 percent of the units are affordable. Regulation specifies a presumed density of six units to the acre with some exceptions (although this is expected to change in the next round of regulation). This builder's remedy provides developers with an incentive to challenge local exclusionary zoning. Having met their obligations (or demonstrated commitment to do so), substantively certified municipalities are not subject to developer appeals; COAH provides a statutorily created presumption of validity against any claim in an exclusionary zoning lawsuit.

The Bargaining Game of Housing Appeals Regimes

The theory at the foundation of these housing appeals regimes is that private developers and local municipalities are the central actors. That is, policy makers expect developer and municipal behaviors to result in the desired local housing and/or planning outcomes. Although the regimes vary considerably, the program theory appears universal. Game theory, with its focus on rational players' strategic interactions and preferences that produce outcomes, is directly amenable to investigating developer and municipal behaviors. Our investigation of state housing appeals regimes employs a bargaining framework in a stylized bargaining game that results from state housing appeals systems' employing private-sector developers to instigate new development at the local level.

Figures 15.1 and 15.2 present the assumed bargaining game that is central to these regimes. Together they define three possible outcomes: (1) developer nonparticipation and municipal noncompliance; (2) developer challenge without municipal compliance; and (3) developer challenge with municipal compliance. Figure 15.1 presents the game regarding individual residential development projects. It first captures the decision by developers to challenge local zoning. An essential but not exclusive feature of this decision, which we theorize in the following section, is the developer's expectation about success in litigation. The figure also represents the decision by municipalities to pursue either out-of-court negotiations (settlement) or litigation. We assume that litigation is a more costly process to resolve a particular developer challenge. Figure 15.2 represents a municipality's decision to comply with the state goals based on expectations about its aggregate payoffs from developer challenges as compared to compliance. We assess the model's insights by employing empirical analyses of when developers have the appropriate incentives to pursue density bonuses and under what conditions municipalities choose to comply with state goals. A detailed discussion of our methods and findings are presented in the Appendix.

Figure 15.1
Developer Challenge Decision with Municipal Noncompliance (Developer Payoffs)

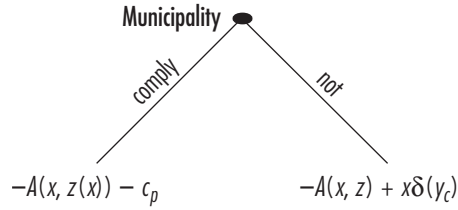


DEVELOPER DECISION MAKING

In this section, we are interested in establishing the mechanism by which state housing appeals systems provide developers with the necessary incentives to challenge local land use regulations (see figure 15.1). Our contribution is to emphasize the voluntary nature of developer participation and how regime features influence developer-expected payoffs from private litigation, thereby motivating their participation.

According to urban economic theory, land value largely depends on the use of land and the intensity of that use. In competitive markets, prospective developers expect to earn competitive returns for undertaking development projects. Developers pay excess expected returns from their current or future development of land toward its purchase. If they pay the landowner less than this full residual, a competing developer could potentially bid the land away by offering the landowner a higher price. Therefore, theory predicts that the developer who proposes the land use and intensity (or density) producing the highest residual value captures the land.

Figure 15.2
Municipality Compliance Decision (Municipal Payoffs)



Consider a scenario in which land use is restricted to be residential, but where the density of development is not restricted. Our model uses the following notation:

y: density, the total housing units per unit of land
$p(y)$: market price per housing unit as a function of density
$c(y)$: total cost function for improvements as a function of density[6]

Let π be the residual value per unit of land from a permitted and irreversible residential development with a density of y units per acre where

$$\pi = p(y)y - c(y). \tag{1}$$

We assume that the price per unit that the market[7] will bear declines with density,[8] and that the marginal total project costs are first decreasing and then increasing with the density of the project.[9]

Under these conditions, competition should result in the successful buyer proposing a density y^* that maximizes π (land value). The first order condition sets marginal benefits of additional density equal to marginal costs of greater density, and y^* solves

$$p(y^*) = c'(y^*) - p'(y^*)y^*, \tag{2}$$

subject to $\pi(y^*) \geq 0$ and $\pi''(y^*) < 0$.

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6. We assume fixed factor prices for improvements and thus write the cost function as just a function of output.

7. Rubin and Seneca (1991) point out that single-family, owner-occupied townhomes and multifamily apartments are likely to be sold in separate markets. Here, we focus on multifamily dwellings and assume that the household's utility from a unit of housing is identical across housing types except with respect to the density of the housing type. We expect different types of multifamily housing to have different average project densities; therefore, density loosely corresponds to building type.

8. We motivate this assumption by considering a unit of housing that is of constant quality except for the number of other units contained within the project. It is commonly believed that fewer attached units provide greater privacy and that occupants may incur fewer congestion costs within smaller multifamily housing developments. Hence, the price of units that otherwise provide the same level of housing services will be lower in more densely built housing. For example, townhouse developments typically have lower density than multifamily high-rise condominiums or apartments, and therefore we expect market prices to be higher for a similar unit in the townhouse project, all else equal.

9. Substantial fixed costs of development suggest that, over some range, economies of scale are likely to decrease the cost of housing per unit. As the site is used more intensely, greater costs are incurred in the design of the project, in the structural features (for example, steel versus wood), and in the provision of parking, so that higher-density projects (absent the acquisition

Land Use Regulations and Density Bonuses As just explicated, where density is unregulated, landowners (and, by extension, developers) favor development densities that maximize the residual value per unit of land. In practice, the maximum density of development is often limited by local land use regulations.

If we let Y be the locally zoned maximum density, the constrained maximum land value is defined as

$$\overline{\pi} = min(\pi(y^*), \pi(Y)). \tag{3}$$

When the regulated density of land is binding, additional value can be gained by exceeding the density ceiling, if such permission can be acquired. If this value is not as-of-right, the additional value may be distributed between the landowner and developer through a bargaining process. Therefore, when local zoning is restricted, developers as well as landowners may have an interest in achieving higher density.

Developers must request permission from municipalities in order to proceed with development.[10] Authority to regulate land in the United States is granted to local jurisdictions by state legislation or directly by the state constitution. The resulting density-limiting regulations likely reflect local preferences. While these regulations may be beneficial on one hand, they are suspected of overly constraining development on the other hand (see Glaeser 2007 for a recent review of this evidence). Fischel (2008) argues that in metropolitan areas with smaller jurisdictions, municipal governments are dominated by homeowners, making these excesses more likely.[11] Together, the contrasting developer and locality preferences amid local permitting requirements define the heart of the conflict that state housing appeals regimes seek to address.

As just demonstrated, developers may have an interest in challenging local zoning. Traditionally, the courts have recognized the legislatively granted land use authority of localities and have deferred to local decision making. Given this presumption for the municipality, the likelihood of override is essentially nil.

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of more land) eventually result in increasing costs per unit despite economies of scale. Evidence from apartment construction across six markets confirms that construction costs per square foot are falling with total project square footage, but increasing with building height (Wheaton and Simonton 2007).

10. Therefore, an alternative to state housing appeals systems might include states' rescinding this authority and directly granting permits to developers. However, there are several obstacles to such an approach. First, the implementation and enforcement costs would be exorbitant. Second, state actors, as contrasted with local governments, lack local information critical to land use decisions. Perhaps most prohibitive is the political infeasibility of wresting control from local governments.

11. The two states primarily investigated in this chapter, Massachusetts and New Jersey, are examples of metropolitan areas with highly fragmented government and high regulatory stringency.

Housing appeals regimes redefine the established permitting authority of localities in a manner that uniquely enables developer challenges. Housing appeals regimes define, for the courts, circumstances in which developer challenges have merit and may warrant override of local zoning. The necessary conditions for this dramatic departure from presumption of local authority hinge variously on local adherence to state-defined housing or land use goals. In this manner, housing appeals regimes attempt to capitalize on developer interest in increased density.

The dramatic redefinition of local authority provides several incentives for developers to act on their presumed interest in challenging local zoning. First, and perhaps most important, it increases the likelihood of their success in court. All else equal, knowing they have a chance to win in court should make developers more likely to challenge. Second, the appeals regimes may minimize the costs of litigation, including the costs of filing a lawsuit and hiring attorneys, by clarifying the evidence necessary to convince the court. Third, these statutes typically include override provisions for higher-density permits (such provisions are part of the builder's remedy, as first articulated in *Mount Laurel II*). Such density bonuses, as we define them for this exposition, are development rights for additional housing units per unit of land beyond the amount currently allowed by local regulation. As demonstrated above, this increased density gives developers the opportunity to increase returns to development. Together, the chance of success, the cost savings, and the court awards likely encourage developer challenges.

Following this reasoning and continuing with this bargaining model, we theorize developer willingness to legally challenge localities in the context of housing appeals regimes. The expected outcome in court (the developer's payoff) is assumed to drive developer willingness, and that payoff is a function of, at a minimum, the likelihood of success and the density of development permitted.

Let $0 \leq q \leq 1$ be the probability that the developer is successful; c_d the developer's cost of litigation (appeal), y_c the density that the court will award, and $\overline{\pi}$, as previously defined, the value of the developer's land in its next best use. We make two further assumptions to define a developer's expected payoff from litigation. First, we assume that the developer does not actually acquire the land until (and unless) she successfully obtains the density bonus. Second, we assume that the developer keeps the entire increased value that results from a change in density relative to the value of land as currently regulated.[12] The developer's expected payoff from litigation, P_L, is

$$P_L = q(\pi(y_c) - \overline{\pi}) - c_d. \tag{4}$$

Notice that $q < 1$ reflects the probability that the court renders a decision in favor of the developer, effectively granting an increase in density. Given the sunk

12. Of course, the extent to which the developer may keep this increased value depends on developer competition for the site. Some return is probably due to the developer who pursues the challenge, which results in greater potential land value.

costs in proposing the project and pursuing litigation, combined with the prospect of losing, this process is risky for developers.

Litigation is by no means assured; settlement may be reached prior to a court decision. Recognizing the ultimate local control of permitting and the expected payoff from costly litigation, a developer will accept a municipality's settlement offer for a permit with density y_z if[13]

$$(5) \qquad \pi(y_z) - \overline{\pi} \geq P_L.$$

That is, we assume that the developer accepts a settlement offer if she is made better off or at least indifferent. Since the municipality has the opportunity to make a take-it-or-leave-it offer to the developer (by virtue of a public vote on a particular permit that effectively ends the bargaining), the municipality will never make an offer of value greater than the value that makes the developer indifferent. In other words, when both parties have full information about the relevant payoffs, probabilities, and structure of the game, the developer's expected payoff is the same whether the town issues a permit or the developer proceeds to court.[14]

When Will Developers Use the Bonus? The necessary condition for developers to voluntarily pursue local challenges is for their expected payoff from litigation to be equal to (if not greater than) the gains from developing the same parcel within local density limits (as-of-right development). This requires that the market would indeed support higher density, $y^* \geq Y$, and that

$$(6) \qquad P_L \geq 0.$$

In order to enlist developers, regulated density must be low relative to market-driven density, and the housing appeals regimes must ensure a sufficiently high success rate with density bonuses able to cover the expected costs of litigation and other program requirements. The history of the Mount Laurel doctrine in New

13. In this case, we are assuming that developers are still able to keep the full surplus generated by the density bonus. Also, we assume that developers cannot bribe the town to take more density than the expected court-ordered density.

14. In practice, the game may not be a one-shot game with symmetric information as portrayed here. Rather, bargaining may involve a series of offers and counteroffers that reveal information. However, the fact that municipalities move last is an important feature of the game that our simple setup stresses. The right to approve and modify the permit is what grants municipalities bargaining power. It also plays a role in the extent to which developers will be willing to reveal information about their projects. Sobel (1989) shows that if the revelation of information is costly and the uninformed party (in our case, the municipality) moves last, the informed party (the developer) will not have incentives to reveal private information. Fisher (2007b) shows that when developers hold private information, the qualitative outcomes shown here still hold. However, there may be litigation in equilibrium, and sometimes municipalities will make settlement offers greater than those that make developers indifferent between accepting and appealing, as derived here.

Jersey nicely demonstrates some of these issues. In particular, the *Mount Laurel II* case suggests that clearly defining the conditions in which developer challenges have merit impacts litigation costs and thereby developer willingness to litigate. The 1983 case assessed the original doctrine up until that time and found that developer and municipality costs from litigation were too high to encourage developer challenges. Chief Justice Robert Wilentz delivered the opinion, stating that "The waste of judicial energy involved at every level is substantial and is matched only by the often needless expenditure of talent on the part of lawyers and experts. The length and complexity of trials is often outrageous, and the expense of litigation is so high that a real question develops whether the municipality can afford to defend or the plaintiffs can afford to sue." Addressing these weaknesses, the *Mount Laurel II* decision directed the determination of each municipality's fair-share number of housing units to determine when municipalities were in compliance with the Mount Laurel doctrine. It also firmly established the builder's remedy. Following this decision, as Mount Laurel scholar Payne observes, "it was so easy [for developers] to prove the number and the fact that it wasn't being met that defendant municipalities almost invariably conceded the violation and concentrated on disputing the form of remedy" (Payne 2000, note 18).

Subsequent regulation also defined y_c, the level of density that developers could hope to achieve if they won. While this determination refined the clarity of the regulations, as we suggest below, the presumed density to which developers are entitled may be too low in areas where land values or other development costs are high. Under those circumstances, the necessary condition in equation (6) will fail to hold because y_c is too low, and developers will not challenge municipalities.

The case of Massachusetts provides an additional example and provides a rare opportunity to directly examine the impact of litigation theorized above. Under the Massachusetts Comprehensive Permit Law (or Chapter 40B, as it is known), developers must file all challenges to local zoning using a comprehensive permit process. If litigation results from the challenge, filings must be made with the relevant state administrative body, the Housing Appeals Committee (HAC). Therefore, all the challenges afforded under Chapter 40B and any developer-initiated litigation can be observed. Exploiting this opportunity, Fisher (2007a) assembled a sample of development projects specifically seeking zoning overrides in Massachusetts between 1999 and 2005. Statistics from this sample support the observation that, during the recent housing cycle, developers were well known as challenging local zoning. Over 90 percent of developer challenges resulted in comprehensive permits. Of the challenges in the sample, only 6 percent resulted in litigation outcomes that favored local towns.

However, as argued above, favorable decisions are not enough. The court decision must allow for sufficient density for developers to want to pursue litigation and to be able to finance and build the project when a favorable verdict is received. Under Chapter 40B, locally administered comprehensive permits resulting from developer challenges cannot render the development "uneconomic" (including consideration for other demands placed on the resulting project by

state law, like the delivery of price- or rent-restricted units). That is, there is no presumed density, and density awards may vary. In fact, a majority of the court-decided permits resulted in the commencement of construction,[15] suggesting that the courts enforced the legislative intent in Massachusetts and that their awards resulted in feasible projects much of the time. We interpret Massachusetts developers' willingness to instigate litigation given the long track record of this law (established in 1969) as a reflection of their expectations that court-ordered permits will also cover the costs associated with litigation.

Affordability Requirements Many of the housing appeals regimes that enable developer overrides of local zoning (as well as of other land use regulations) require a quid pro quo from developers in the form of price or rent restrictions on some portion of the resulting housing units. Consider a development proposal that provides a proportion of the housing units at rents below current market value in the absence of restrictions on total density. The residual land value produced by this proposed development is

$$\pi = \gamma p(y)y - c(y), \tag{7}$$

where $\gamma \in [0, 1]$ is the percent of market price that a blend of market and affordable units will produce, on average, per unit.[16]

It is then straightforward to show that the density, y^A, that maximizes π with the provision of below-market-rate units is strictly less than y^* for $\gamma > 0$ since y^A satisfies the first order condition,

$$\gamma p(y^A) = c'(y^A) - \gamma p'(y)y^A. \tag{8}$$

In other words, with unregulated density, the developer who proposes to use land for a fully market-rate project will always outbid a developer who proposes a project with affordable or below-market-rate units, all else equal. In this sense, projects with affordable units will not be developed in the private sector without assistance. As argued by Ellickson (1981) and Fischel (1995), if projects are required to provide affordable units, as found in inclusionary zoning ordinances, the rules will serve as a tax on development and will dampen development activity by inducing lower project densities.

When the development of affordable units is voluntary but a density bonus is made available, we replace d^* with d^A, and a necessary condition for developer use of the bonus is that $Y \leq y^A < y^*$. That is, inclusionary requirements reduce the

15. For appeals in the Massachusetts sample that were decided between 2000 and 2004, 21 of 33 (64 percent) projects were confirmed to have pulled building permits, indicating that construction had commenced by late 2006 or early 2007.

16. For example, under Chapter 40B the developer can expect to sell or rent a fraction $\beta < 1$ of the units at market rates and the other fraction $(1 - \beta)$ of the units at a rate set by the regulation. By representing the regulated affordable rent or price as a fraction α of the market price, we obtain $(\beta + (1 - \beta)\alpha)p$ as a blended price per unit and $\gamma = \beta + (1 - \beta)\alpha$.

likelihood, all else equal, that developers will voluntarily challenge municipalities relative to when no affordable production is required.

MUNICIPAL DECISION MAKING

Before considering how the threat of developer challenge, in the aggregate, shapes municipal behaviors, we should point out a few features of the municipality's decision-making process in the event of a particular developer challenge, as shown in figure 15.1. In some instances, the prospect of avoiding a particular development proposal altogether (by defeating the developer in court) may outweigh the costs of litigation and other forgone value resulting from failure to settle out of court (Fisher 2007b). Therefore, municipalities may choose to deny a developer's proposed project and proceed to court upon the developer's challenge. In other circumstances, the municipality may choose to settle with the developer because it can exploit the cost savings (alternatively, "extract surplus") generated by sparing developers from trial. This value can be exchanged between developer and municipality as reductions in the proposed density of the project, changes to project design, inclusion of development of public amenities (such as parks), or even direct cash payments, for example.

In Massachusetts over 80 percent of all developer challenges in a sample from 1999 to 2005 resulted in municipality offers to settle—that is, municipalities issued permits without litigation (Fisher 2007a). In these settlements, municipalities obtained reductions in project density of just over 10 percent on average, as compared to the density initially proposed by the developers. If the likelihood of developer success in court (q in our model) is close to 100 percent, then settling a challenge out of court is always in the municipality's interest from a cost-saving perspective because settling affords the municipality these extractions and spares both parties the deadweight costs of litigation.

The Compliance Decision In the preceding section, we established the conditions under which a developer will challenge a municipality's zoning and under which a municipality will attempt to settle a particular challenge out of court. The discussion now turns to figure 15.2, considering when a municipality will choose to comply with the requirements of housing appeals regimes. In this setup, we presume that municipalities understand developers' incentives as defined above in equation (6). We also assume that compliance is gained through the development of local plans or zoning to achieve state standards (often including zoning consistent with those plans). Therefore, the possible outcomes resulting from municipal decision making under housing appeals statutes are either the investment in a planning effort or in the absence of a plan bargaining with developers who are empowered to challenge existing zoning ordinances.[17]

17. For simplicity, we assume that q is close to 1 in this section and that municipalities will settle with developers from whom they expect successful challenges to their local zoning.

Consider the trade-offs to planning. One possible benefit of planning is the mitigation of municipality-wide costs achieved by assigning (and perhaps segregating) locations for new development (Baumol and Bradford 1972; Crone 1982; Fischel 1994).[18] In the event of developer challenges to local zoning, this opportunity is forfeited. Let x be the total number of new housing developments the municipality expects developers to bring through challenges. The number of expected projects is a function of market conditions and the process by which challenges are brought, as defined by the state housing appeals regime and the courts. If developers are expected to bring challenges, then $x > 0$, and there may be a benefit to planning. We assume that, if the municipality chooses to plan for these new projects, it does so at the same density a court would award in the successful developer challenge. Let $z(x)$ be the cost-minimizing location choice with respect to development-related externalities from x projects. In the context of municipal planning, $z(x)$ is a choice variable for the municipality; otherwise, we assume the location of development is given by the developer's choice of site and not influenced by the locality.

By contrast, planning also presents costs to municipalities. First, we assume that compliance with the state's request results in high direct costs for planning (including data collection and analysis, technical expertise, and transaction costs). Second, planning may reduce or eliminate the opportunity to extract surpluses from new developments. Recall the municipality's ability to exchange with developers over the value of avoiding litigation described above. When litigation is risky, as in the case of a developer's challenge to local zoning, the municipality can gain considerably through bargaining out of court.[19] Therefore, a state-mandated planning process establishing higher density development by-right reduces this municipal ability to extract surplus from developers.

Therefore, a main difference between planning and not planning may be municipalities' ability to extract surpluses through bargaining. In the absence of a state-compliant plan, developers likely lack the right to build to desired (higher) densities, and they must credibly threaten to sue the municipality for the desired permit. Therefore, for the same ultimate density, municipalities can extract more in the absence of planning, because developers likely face higher costs to win the necessary permits. Subtracting the right side from the left side

18. Here we assume that, in the event of either compliance or noncompliance, communities will receive new development. In this case, depending on the community, the control afforded by planning may be valuable. To the extent that a housing appeals regime allows a municipality to avoid new development through compliance, for example, by allowing payments in lieu of development or by rewarding planning without requiring production, compliance may provide other sorts of benefits and thereby provide different incentives to comply.

19. While even by-right development may require developers to enforce their rights through the courts, we assume here that they prevail with certainty in such cases and at lower costs.

in equation (5) and letting $y_z = y_c$, we see that for a project of density y_c the municipality can extract concessions of up to value

$$\delta(y_c) = (1 - q)(\pi(y_c) - \overline{\pi}) + c_d. \tag{9}$$

We define the municipality's costs from the development of x new projects in terms of a cost function, $A(x, z(x))$. Recall that $z(x)$ represents the cost-minimizing choice of location for x projects. If a municipality chooses to meet state goals and plan, then $z(x)$ is a choice variable. If the local government is not compliant, we assume that z is given by developers' choices of sites and is not influenced by the locality. Then it is straightforward that $A(x, z(x)) \leq A(x, z)$. If x is equal to zero, we assume that municipal costs are zero and there is no benefit to planning.

The expected municipal payoff to noncompliance, therefore, is $A(x, z) - x\delta(y_c)$. If a municipality chooses to plan at a cost c_p, its payoff will be $A(x, z(x)) + c_p$, for the same amount of new development. Again, seeking to minimize its costs, a municipality will choose to become compliant when the payoff from planning exceeds the payoff from noncompliance,

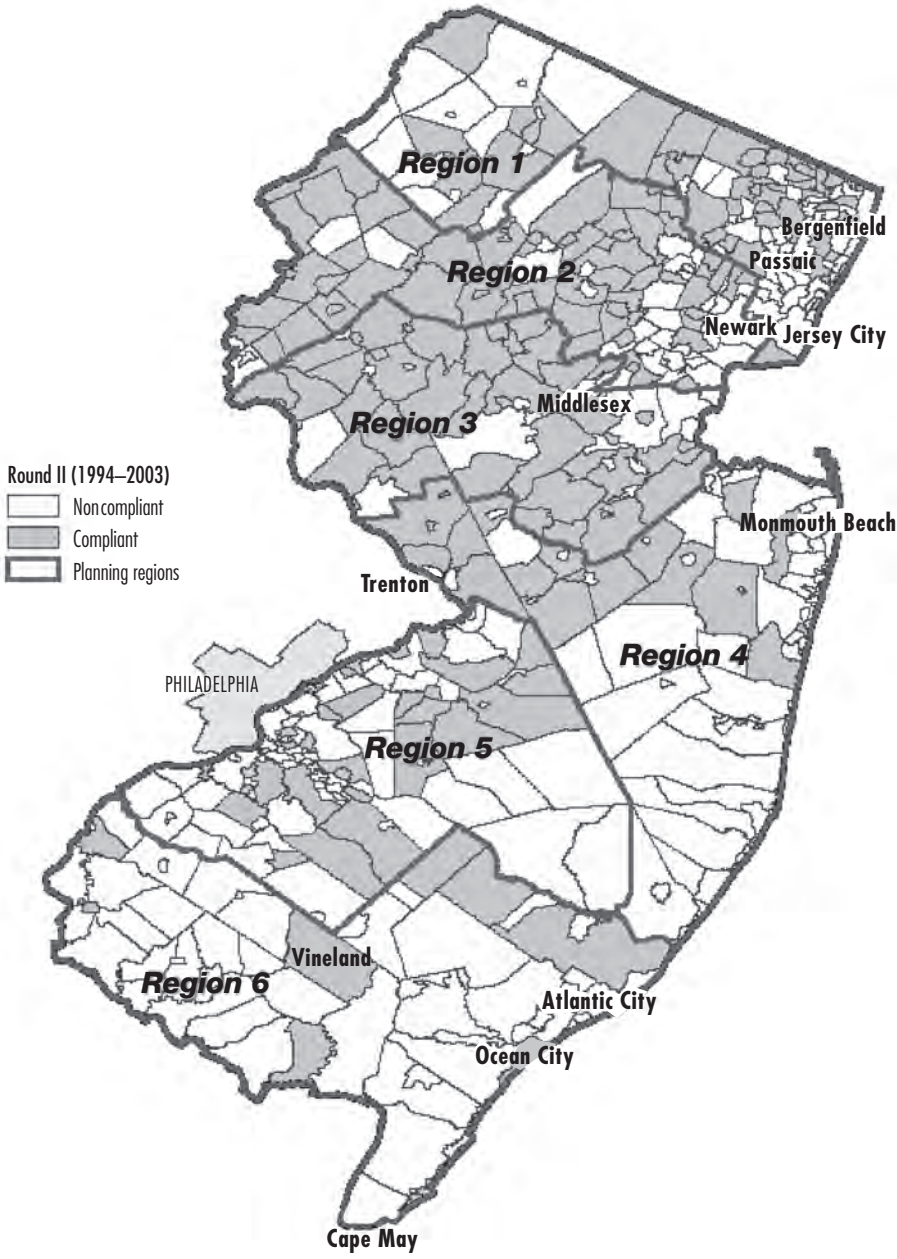
$$A(x, z) - A(x, z(x)) > x\delta + c_p. \tag{10}$$

The extent to which municipalities believe that they can lower the costs of new development by controlling site location or availing themselves of other aspects of the state program is, therefore, central to their decision making. The costs likely vary considerably across localities. The expected number of projects (x) may also be a key determinant of municipality behavior. On one hand, in places with low market demand, perhaps due to location or the housing market cycle, there may be little worry about new market-driven development and therefore little incentive to plan. On the other hand, if a locale is attractive for new development, perhaps the payoffs from planning are greater. Finally, the costs of litigation and the costs of planning impact this decision in the same direction: away from compliance. Because municipalities can extract some of the costs of litigation through settlement bargaining, the higher the costs of litigation, the more likely the municipalities may be to engage developers rather than comply with state mandates. Because state compliance is costly, it may also be a potential deterrent to planning.[20]

Put most simply, our modeling stresses the interplay of developer and municipality, in the context of program features and market realities, for housing appeals regimes to function as intended. Therefore, it should afford some insight into real-world outcomes. Consider New Jersey and the municipal behavior under its Fair Housing Act. As of 2003 fewer than half of New Jersey municipalities (41

20. We further expect that the ability to bear the direct costs of planning varies across localities as a function of the available resources (including technical expertise and resources for the necessary data collection, analysis, and decision making in support of a comprehensive plan consistent with local zoning).

Figure 15.3
New Jersey Municipality Compliance, 1994–2003



percent) were in compliance. Even in the northern regions of the state where developer challenges were likely during the 1990s (given growing housing demand), a good number of municipalities remained noncompliant (see figure 15.3).

At first glance, this noncompliance would seem puzzling (and perhaps upsetting to policy makers). Therefore, we empirically examined the likelihood of municipal compliance in New Jersey based on a series of municipal-level characteristics relevant to our model. Table 15.1 presents our results, and our methods

Table 15.1
Likelihood of New Jersey Municipal Substantive Certification

Dependent Variable: Certified Round II	All Municipalities		North		South	
	Coefficient	Marginal Effect	Coefficient	Marginal Effect	Coefficient	Marginal Effect
Vacant Land in Growth Areas (1000 acres)	0.0425***	0.02	0.0812	0.03	0.0455***	0.01
	–0.0125		–0.0522		–0.0019	
COAH Northern Regions+	0.6260***	0.23				
	–0.1689					
Median Household Income/1000	0.0104***	0.0039	0.0097***	0.0039	0.0123	0.0034
	–0.0032		–0.0028		–0.0127	
Percent White	0.0930**	0.04	0.0979	0.04	0.1268***	0.04
	–0.0373		–0.0608		–0.0285	
Percent White Squared	–0.0006**	–0.0002	–0.0005	–0.0002	–0.0009***	–0.0002
	–0.0002		–0.0004		–0.0002	
Calculated Need/ Stock × 100	–0.0733**	–0.03	–0.0398	–0.02	–0.0984***	–0.03
	–0.0295		–0.035		–0.0276	
Certified Round I+	0.9195***	0.35	0.7327***	0.28	1.1532***	0.39
	–0.1331		–0.0491		–0.2669	
Substandard Housing/ Acre × 100	–0.0453*	–0.02	–0.0498*	–0.02	0.0305	0.01
	–0.0237		–0.0259		–0.082	
Constant	–4.7960***		–5.3683***		–5.5924***	
	–1.3769		–2.0226		–1.0209	
Observations	566		298		268	
Pseudo R-squared	0.23		0.17		0.21	
Log Likelihood	–296.2		–169.46		–118.27	

* Significant at 10%; ** significant at 5%; *** significant at 1%
+ Marginal effects for discrete change of dummy variable from 0 to 1; otherwise, marginal effects evaluated at the means of variables
Notes: Probit estimations. Certified municipalities designated as those petitioning for certification in round II prior to 2003. Marginal effects shown next to coefficients. Robust standard errors beneath coefficients (adjusted for clustering by planning region).

and data are explained in the Appendix. As our modeling suggests, municipalities may choose not to comply for several reasons, and those reasons are the result of various regime features (often expressed through developer participation).

For example, municipalities may not comply because they do not face a credible developer threat (*outcome 1*). The market may fail to provide the necessary incentives for developer challenge. In New Jersey's southern regions, which experienced relatively less growth pressure during the 1990s, municipalities were over 20 percent less likely to plan than their northern counterparts, even after controlling for other relevant municipal variation. The interaction between the market and features of the appeal regime itself may also fail to compel developers. For example, we expect that the likelihood of developer challenge in New Jersey's dense, physically distressed cities is mitigated by COAH's presumptive density of about six units per acre. This density fails to provide developers with a sufficient payoff from challenge. City governments may be willing to bargain with developers in these places in order to share in the gains from development. Their bargaining positions are worsened by planning for higher-density development by-right. Therefore, even as the northern communities consistently faced growth pressure, developers were assumed less likely to litigate and cities less likely to plan within the region's dense cities. In fact, we do see a reduced likelihood of planning in the north amid places with increased density and distressed housing (as proxied by the amount of substandard housing per acre). This does not mean that new development was not forthcoming in these mainly older cities, but that it occurred outside the preferred process set forth by the state (Mallach 2008).

Alternatively, municipalities may perceive that the benefits of planning may not outweigh the costs, even in the face of developer challenges (*outcome 2*). In New Jersey's northern communities (where significant developer threats are assumed), compliance is only 55 percent. If the extent of expected development is not great, the incentives to plan may be reduced. To this end, municipalities with less vacant land available for development were less likely to achieve certification. Poorer and relatively minority-rich communities were the least likely to plan.[21] This is consistent with our expectation about the perceived benefits of planning across communities (that is, wealthier and white communities will be particularly interested in controlling development patterns in their municipalities). In addition, the more affordable housing the state requires for compliance (a tally called "calculated need" by COAH), the less likely a municipality is to plan. We expect

21. Perhaps, however, we are incorrect in assuming that developer challenges exist in these communities, explaining their lack of compliance. We are unable to directly test this proposition. However, we considered the possibility that these municipalities are under less developer threat than the rest of the north in order to bolster our confidence in this interpretation. We examined the bivariate relationship between compliance and distance from the closest city center among northern municipalities, with the expectation that greater distances experience less development pressure. We found that, on average, the likelihood of compliance increases at greater distances. Therefore, we have greater confidence in believing that noncompliance among the poorer and minority-rich northern communities is likely in the face of developer threats.

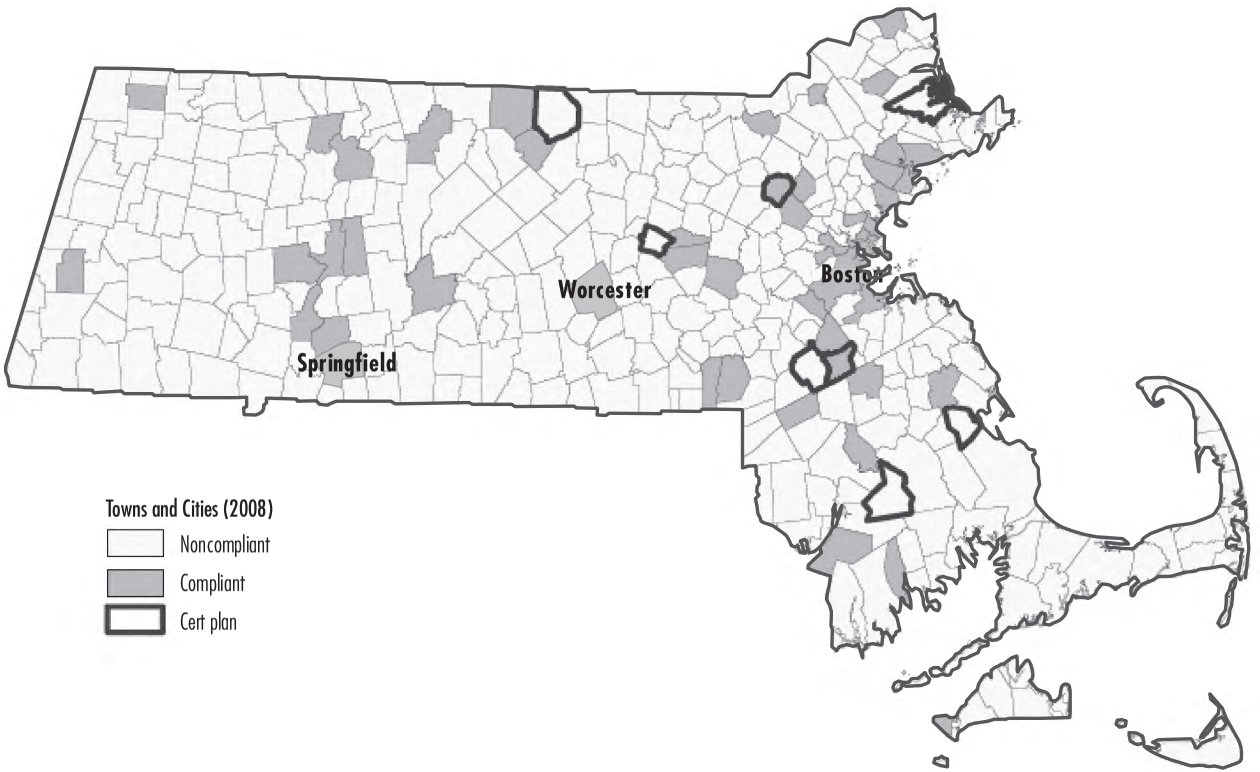
that a higher calculated need increases the direct costs of planning and the costs of municipality-supplied subsidy or sponsored programs for affordable housing development. Finally, municipalities that were certified in the previous round were more likely to become certified in the second round. While these are likely to be places facing developer challenges, the costs of compliance may have also been lower due to the experience of undertaking the process previously.

We would be remiss should we not point out that there are 230 New Jersey municipalities in compliance with the Fair Housing Act as of 2003, possibly suggesting that the housing appeals regime is functioning as intended. That is, when developers challenge local land uses, municipalities change their behavior (*outcome 3*). The northern municipalities, which are assumed to be under the highest developer pressure in the state, are more than 20 percent more likely to plan than the southern communities, all else equal. Perhaps most interesting to advocates of housing appeals regimes for "opening up" the suburbs, communities with relatively high incomes and high proportions of white residents are more likely to plan, as predicted in our model. This at least suggests that the communities motivating this state antiexclusionary zoning effort appear particularly motivated to change their behavior as a result.

Before leaving the real world entirely, let us also quickly return to Massachusetts to see what insights our modeling can provide. Municipality compliance is much less frequent in Massachusetts (51 of 351 towns and cities, or 15 percent). Figure 15.4 depicts towns and cities that have reached the threshold of compliance with 10 percent of their 2000 housing stock qualifying as subsidized housing under the rules of the Department of Housing and Community Development (DHCD) charged with administering Chapter 40B. The test for compliance is strict in Massachusetts because it is based on actual production, not plans for anticipated production. In the context of our model, therefore, a change in behavior provides little payoff to municipalities. For the greater part of the 40-year history of the law, neither planning nor zoning afforded any protection from developer challenges. Therefore, it may be easier and less costly to face developer challenges. Given that compliance in Massachusetts is a function of the actual subsidized housing produced, letting developers bear those costs through this challenge mechanism seems logical. In 2002 DHCD adopted regulations facilitating a planning process, not unlike the COAH process in New Jersey, whereby towns and cities could also demonstrate compliance. It is unsurprising, then, that relatively suburban, high-income towns in the Boston metropolitan area have taken the first steps toward achieving certification through this planning process.[22] Still, as depicted in figure 15.4, only 8 have reached that goal to date.

22. Of 131 towns near Boston, 56 have entered the planning process as of the first quarter of 2008. The places seeking approval are far less proximate to jobs and have weakly higher income in a simple probit model (pseudo R squared equal to 9 percent).

Figure 15.4
Massachusetts Municipality Compliance, 2008



Conclusions

We have developed a framework to incorporate strategic behavior by and among developers and municipalities in the context of state housing appeals regimes. Our goal has been to open the black box of this strategy to understand the role that developers play in facilitating state goals with respect to land use and housing development at the local level. Understanding the developer role is particularly important as a growing set of states are enlisting developers in state antiexclusionary zoning efforts.

As the model and empirical evidence offered here suggest, outcomes from housing appeals regimes may vary widely, even in the same state.[23] When developers have sufficient incentives to challenge local land use regulations, they may ultimately play one of two different roles (corresponding to alternate outcomes). On one hand, developers may create a credible challenge threat that results in municipal compliance with state-established goals. In this role they can be seen as the enforcers of state policy. That is, any change to land use or housing production is the result of a change in municipal behavior (changes, of course, may not occur). On the other hand, when municipalities fail to proactively strive toward the fulfillment of state goals, developers may be the direct implementers of state policy, pursuing housing production in spite of local municipal behavior.

We expect that this more fully articulated understanding of the interplay between municipalities, developers, state policy, and market conditions in state housing appeals regimes will be useful for more clearly identifying the intent of such policies and creating mechanisms to achieve their expected goals.

APPENDIX: EMPIRICAL EXPLORATION OF MUNICIPAL COMPLIANCE

As an initial exploration of the propositions of our model, this appendix presents our empirical exploration of variation in municipal compliance with the New Jersey Fair Housing Act. We consider New Jersey municipalities from 1994 to 2003. New Jersey has one of the longest histories with state antiexclusionary zoning efforts and is often looked upon as a model by other states, making it a particularly interesting laboratory for analysis. Despite being one of the smaller states, New Jersey includes a relatively large number of municipalities (more than 500), including dense older cities, suburbs, and rural and farming communities. Unlike regimes where state goals are less clearly articulated, New Jersey's Council on Affordable Housing (COAH) explicitly identifies localities as complying or not complying with requirements.

23. Here we are referring to the outcomes of the bargaining game; that is, developer decisions to participate and the municipal compliance decisions. We are not referring to the policy outcomes more broadly, which might include increased housing production, for example.

Therefore, the outcome of interest is the municipal decision to comply, demonstrated by the preparation and substantive certification of a local plan with COAH.[24] We define compliance as the presence of substantive certification during round II gained through petitions filed between 1994 and 2003. Second-round certification provides the most valid measure of voluntary municipal compliance under the New Jersey appeals regime. Defining compliance based on certification in other rounds fails to consistently capture the voluntary nature of municipal planning that is of interest here. Both the earliest years and the most recent were periods of relative upheaval in the regime's implementation.[25] Narrowing our focus to round II petitions prior to 2003 bolsters the consistency of this measure over our full study period. Municipal decision making after 2003, with the proposal of new rules under round III certification in 2003, likely differs from that during the remainder of round II, complicating our understanding of municipal decisions to comply.

Data on municipal certification were assembled from COAH's Web site. Of New Jersey's 566 municipalities, 245 have round II certification. Fifteen of these certifications resulted from petitions filed as of 2003. Therefore, according to our measure, 230 municipalities (41 percent) are compliant.

With this municipal compliance measure, we can document some empirical facts about the spatial variation in compliance across the state. Figure 15.3 maps compliance in New Jersey and within the state's six planning regions. A clear north-south divide exists, with a greater proportion of northern cities in compliance (55 percent as compared to 25 percent of southern cities).[26] This distinction may be a result of contrasting development pressure, which also likely contributes to the extent of developer challenges. The late 1990s were generally a period of growth for the northern municipalities of New Jersey. Mallach (2008) describes strong upward trends in house prices, transactions, and building permits through 2006, especially for urban areas. By comparison, cities in the southern part of the state, such as Trenton and Camden, experienced markedly less growth. The greater compliance in the north may, therefore, be explained by the economic realities there. Nevertheless, variation in compliance also exists

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24. A further complication exists in understanding municipality choice in New Jersey. Essentially, localities also have the option to petition the courts directly and obtain a judgment of repose for presenting the court with a plan deemed to be in compliance with the Mount Laurel doctrine and COAH guidelines. Without further data, it is unclear which judgments result from voluntary petitions and which from developer litigation. Therefore, we do not consider municipalities under court protection or those that through our understanding of the COAH data have come under COAH's protection from the courts.

25. We could also argue that considerable uncertainty existed from 1999 until the legislature effectively extended the round in 2000 (Kinsey 2008). We recalculate our results below using certifications that resulted from petitions made to COAH prior to the year 2000, and our results remain qualitatively the same.

26. These means are significantly different at better than the 1 percent significance level.

within the north, where, despite consistent development pressure and, presumably, threat of developer challenge, few of the denser older cities in the northeast chose to comply. We turn to our model of municipal decision making with some data on New Jersey municipalities to suggest possible explanations.

Empirical Approach

To begin to relate the likelihood of compliance with observable characteristics of these municipalities, we return to our model. Rearranging equation (10), we expect municipalities to comply with state mandates when

$$(11) \qquad [A(x,z) - A(x,z(x))] - x\delta - c_p > 0.$$

Simply put, municipalities compare the benefits and costs of planning in the decision to comply. Our inquiry lends itself to probit estimation of the likelihood of municipal round II certification.

The first term in our model of compliance is the municipality's perceived benefits of planning resulting from the level of anticipated development and the value that control over the location of future developments affords the municipality. We first seek to account for the different market and economic pressures in the northern and southern parts of New Jersey. COAH divides New Jersey into six planning regions with housing needs first determined at the regional level and then allocated among municipalities within those regions. We exploit this fact to divide New Jersey into north and south according to planning regions 1 through 3 and 4 through 6 (planning regions outlined in bold in figure 15.3). Faced with the prospect of more new development, there is even more benefit from controlling where it all occurs. We further proxy for this expectation at the municipal level with a measure of a municipality's vacant land in state-identified growth areas. In growth areas, land is more vulnerable to development because there are fewer environmental and other regional or state-enforced regulatory restrictions. For example, growth areas have fewer restrictions on impervious surfaces and less emphasis on agricultural land preservation, making development more feasible. Finally, we expect the perceived benefits from planning to be positively related to municipality household income and the percentage of the population that is white.[27]

Our model of municipal compliance next considers the costs of planning. All else equal, the number of low- and moderate-income housing units for which

27. Alternate means of accommodating fair share are available in New Jersey through the planning and certification process may reinforce this relationship. For example, regional contribution agreements (RCAs) allow certified municipalities to transfer a portion of their obligation to a receiving community in exchange for a per-unit payment. Therefore, wealthier communities willing to pay to avoid some of their obligation may find compliance valuable.

the municipality is responsible (hereafter referred to as calculated need) may influence the perceived benefits of planning.[28] However, greater calculated need may imply greater direct costs of preparing a plan and applying for certification. To the extent that compliance will require a municipality to provide a subsidy for affordable housing development, costs of compliance may be increasing in calculated need. As an additional control, we also employ a categorical variable indicating whether a municipality was certified in round I of the COAH process. Presumably, the process of compliance in the first round may make the decision to comply in the second round less costly. In any of these cases, greater costs are likely to reduce the probability of municipal compliance.

All these influences on municipal compliance are contingent on a realistic threat of developer challenges. Growing municipalities that are attractive to developers likely expect developer challenges and may choose to plan accordingly (such as the north-south difference in compliance rates observed earlier). Consider the density bonus within the Fair Housing Act, which is set at about six units per acre.[29] This density is probably considerably higher than is permitted under by-right zoning in most suburban communities. However, it may provide insufficient incentive for developer challenge in high-density municipalities and those with large proportions of substandard stock. Here, the development costs and surrounding land values would demand a far greater density for a developer to cover construction costs, not to mention the costs and risks of litigation. At the same time, city government may welcome development in these places and hope to participate in the surplus that it may generate. In the absence of a plan that allows higher-density development as-of-right, and in the absence of developer incentives to pursue a builder's remedy that is inadequate, a municipality may exploit its regulatory powers in bargaining with developers. Therefore, both developers and cities may prefer to bargain outside the housing appeals process, and cities will not comply with state mandates. Rather than indicating a weakness in our municipal modeling, this case should be seen as clearly demonstrating that both developers and municipalities are the central actors in these state efforts. Therefore, we recognize the important and complicated influence of development pressure on the likelihood of municipal compliance and include a measure of the percentage of substandard stock per acre in our estimation to control for high-density areas with opportunities for redevelopment.

This joint consideration of developers and municipalities brings us full circle to our original conception of the bargaining game at the heart of these housing

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28. COAH publishes the calculated need or number of low- and moderate-income housing units for which each municipality is responsible. In general, there may be greater benefits to planning in the face of greater opportunity for new development. COAH intentionally places a greater burden on wealthier communities; therefore, these two assumed benefits of planning likely reinforce one another.

29. See New Jersey Administrative Code 5:93-5.6.

appeals regimes. We identified three possible outcomes: (1) developer nonparticipation (no challenge) and municipal noncompliance; (2) developer challenge without municipal compliance; and (3) developer challenge and municipal compliance. Our empirical exploration attempts to account for these interrelationships in the context of our prior theorizing.

Data

In addition to data on certification, we used COAH data to capture several other municipal-level characteristics relevant to this exploration of municipal planning decisions. These include COAH's round II determination of calculated need. We also assembled information on COAH's round II designation of municipalities as Urban Aid Cities, which are designated by the state legislature as especially deserving of resources.[30] Finally, we assembled COAH's 1993 determination of the percentage of substandard housing and the amount of vacant land in growth areas by municipality. In the first instance, we divided this number by the total municipal acreage to provide a relative measure of the amount of substandard housing per municipality. To these data we add several additional municipality-wide descriptors taken and manipulated from the 1990 census. The census data include the total housing stock per acre, median household incomes, housing density, and the percentage of the population that is white.

Summary statistics for the 566 New Jersey municipalities, shown in table 15.2, nicely demonstrate wide variation among the cities and towns in the state. These statistics first demonstrate that planning is hardly universal. Forty-one percent of the state's municipalities are compliant (had certified plans as of 1993). The fair share that each municipality faced during the study period also differed across the state. The calculated need, in terms of new or rehabilitated housing units, ranged from zero to nearly 3,000 units. As a percentage of 1990 housing stock, the calculated need ranged from 0 percent to 23 percent, with a mean of 3.5 percent. Finally, median household incomes varied fairly dramatically across locations, and the racial composition of municipalities covered the spectrum from completely nonwhite to entirely white.

Calculating these mean values by planning region further demonstrates the north-south divide observed earlier (see table 15.2). The compliance rates differed dramatically (as observed in figure 15.3). The rate of certification in the first three planning regions was 55 percent, while it was 25 percent in the last three regions.[31] The northern regions were also significantly richer than the three southern planning regions. These statistics are generally consistent with greater

30. For the purposes of substantive certification, a municipality has to meet additional tests as specified by COAH-specific rules to be designated an Urban Aid City.

31. These means are significantly different at better than the 1 percent significance level.

Table 15.2
Summary Statistics for New Jersey Municipalities

Municipality Characteristics by Region (Means)					
Planning Region	**N**	**Certified Round II**	**Certified Round I**	**Calculated Need (87–99)**	**Calculated Need/Stock**
Northeast (1)	122	0.43	0.22	151	3.00
Northwest (2)	104	0.62	0.35	102	1.99
West Central (3)	72	0.67	0.57	121	3.26
East Central (4)	99	0.20	0.17	209	4.54
Southwest (5)	101	0.33	0.29	129	4.19
South Southwest (6)	68	0.19	0.16	175	4.85
The State	566	0.41	0.28	147	3.55
Planning Region	**Median Household Income (×1000)**	**Percent White (×100)**	**Urban Aid City**	**Housing Density**	**Percentage Substandard Stock (×100)**
Northeast (1)	51.39	90.30	0.09	3.23	5.88
Northwest (2)	53.79	88.79	0.11	1.98	2.98
West Central (3)	51.36	92.02	0.04	1.23	2.02
East Central (4)	43.86	91.87	0.06	2.06	1.90
Southwest (5)	40.30	86.86	0.12	1.49	1.81
South Southwest (6)	33.18	85.61	0.10	1.14	1.17
The State	46.34	89.34	0.09	1.98	2.87

development pressure, and thereby greater likelihood of developer challenge, in the north.

In an attempt to disentangle the complex interrelationships among developers and municipalities, we estimated probit models of the likelihood of municipal round II certification based on a series of municipal-level administrative and demographic characteristics. In all the analysis below, we controlled for whether a municipality was certified in round I.

In table 15.1 we report the estimated coefficients and the marginal effects of the independent variables on the probability of municipal compliance. Taken together, we think that these findings from New Jersey are supportive of our model as they are consistent with the three outcomes from housing appeals games that we identified. Moreover, they suggest that, just as developers' willingness to participate is important to municipal compliance, developers' threats also

vary across municipalities with the features of the housing appeals regime and economic realities.

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