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MARKET-BASED REGULATORY APPROACHES: A COMPARATIVE DISCUSSION OF ENVIRONMENTAL AND LAND USE TECHNIQUES IN THE UNITED STATES

*Jerold S. Kayden**

I. INTRODUCTION

One of the newest developments in United States national and state environmental policy is the movement from command-and-control to market-based regulatory strategies.¹ Under the traditional command-and-control model, government mandates that each industrial polluter achieve a certain level of pollution control, which usually is based on a specific pollution control technology.² In contrast, market-based approaches, such as pollution charges and trading of pollution permits/credits, attempt to harness market forces to achieve equal or greater amounts of pollution control in a more cost-efficient manner.³

Under a pollution charge scheme, government charges polluting companies a tax or fee for amounts of pollution produced.⁴ In theory, "low-cost" pollution producers—those that can reduce their production of pollution at a lower cost relative to the amount of tax or fee—will decrease their pollution until the marginal cost of reduction

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¹ See, e.g., PROJECT 88—ROUND II, INCENTIVES FOR ACTION: DESIGNING MARKET-BASED ENVIRONMENTAL STRATEGIES 1–4 (Robert N. Stavins ed., 1991) [hereinafter PROJECT 88]; COUNCIL ON ENVIRONMENTAL QUALITY, ENVIRONMENTAL QUALITY: 21ST ANNUAL REPORT 4–6 (1991); Robert W. Hahn & Robert N. Stavins, *Incentive-Based Environmental Regulation: A New Era From an Old Idea?*, 18 *ECOLOGY L.Q.* 1 (1991).

² See PROJECT 88, *supra* note 1, at 5.

³ See *id.* at 8–9.

⁴ See *id.* at 6.

equals the amount of the tax or fee. "High-cost" pollution producers—those that face a higher cost of pollution reduction relative to the tax or fee—will continue to pollute and pay the relatively lower tax or fee as long as the tax or fee is not so high that it makes the polluting activity unprofitable. Properly designed, a pollution charge program should result in lower aggregate costs for achieving a specific level of pollution than a command-and-control mandate would, and at the same time should encourage companies to develop new, lower-cost pollution reduction technologies.⁵

Under a pollution permit/credit trading program, government establishes a total amount of allowable pollution, which it then "commodifies" into permits/credits and distributes by auction or other dispensing mechanism to polluting companies.⁶ If a company is able to keep its level of pollution below the amount authorized by its permit/credit allocation, then it can sell its unused permits/credits to other companies. For high-cost polluters, the cost of purchasing a permit/credit may be less than the company's cost of reducing a similar amount of pollution, and it thus will elect to enter the permit/credit marketplace. Like pollution charges, the driving idea behind trading programs is use of the market to reduce costs for achieving the same pollution reduction through command-and-control methods.⁷

As the sun rises on market-based approaches to environmental regulation, the comparative experience of market engagement efforts in local land use regulation is worth considering. Indeed, over the past thirty years, local land use regulatory policy increasingly has adopted market-driven incentive and trading mechanisms to supplement and sometimes even supplant command-and-control approaches. This article examines this evolution, with particular focus on incentive zoning and transfer of development rights (TDR) techniques. Although these techniques differ in substantial ways from pollution charge and permit/credit trading programs, they nonetheless offer interesting comparative insights for the use of market-based approaches in environmental protection.

⁵ See *id.*

⁶ The Clean Air Act Amendments of 1990 include a tradeable permit system for addressing pollutants that cause acid rain problems. See 42 U.S.C. §§ 7651-7651(o) (Supp. 1990).

⁷ See PROJECT 88, *supra* note 1, at 6-7. The United States Environmental Protection Agency (EPA), which has operated the Emissions Trading Program for several years, claims that over \$4 billion in savings have been achieved over conventional command-and-control approaches. See *id.* at 7 n.28; see also Daniel J. Dudek & John Palmisano, *Emissions Trading: Why Is This Thoroughbred Hobbled?*, 13 COLUM. J. ENVTL. L. 217, 233-34 (1988).

II. TRADITIONAL LAND USE REGULATORY POLICY

For most of this century, the prevailing approach to local land use regulatory policy in the United States has been one of command-and-control. Zoning, the principal regulatory tool, generally tells landowners what they can and cannot do with their property through the prescriptive trio of use, height, and bulk restrictions.⁸ Use controls typically restrict development of property within a certain district to residential, commercial, or industrial uses.⁹ Height controls, for example, may set a maximum height of two-and-one-half times the street width, with setbacks occurring above that height according to a predetermined formula.¹⁰ Similarly, bulk controls may establish a maximum density of eight units per acre or set a floor area ratio (the ratio of building area to lot area) of fifteen.¹¹ By referring to these rules, set forth in advance in the zoning text and made geographically specific by the zoning map, a landowner knows more or less what it can and cannot develop as a matter of right on its property.

Over time, the limitations of command-and-control zoning became apparent. Although it achieved simple successes, such as separating incompatible land uses, it failed on its larger, perhaps unrealizable, promise of quality physical environments for home and work.¹² Observers and practitioners alike began to characterize the traditional zoning model as static, rigid, and inflexible: words brimming with pejorative connotations.¹³ The early palliatives were inelegant. The variance safety valve, designed to mitigate the crude rigidities of the Model T ordinance with flexibility in cases involving unusual site-specific physical hardships, became instead a variance floodgate opened regularly by political pressure and worse.¹⁴

⁸ See, e.g., *Village of Euclid v. Ambler Realty Co.*, 272 U.S. 365, 380–82 (1926) (upholding constitutionality of Euclid's zoning ordinance setting forth use, height, and area districts); CHARLES M. HAAR & MICHAEL A. WOLF, *LAND-USE PLANNING: A CASEBOOK ON THE USE, MISUSE, AND RE-USE OF URBAN LAND* 220–55 (4th ed. 1989).

⁹ Euclid's ordinance, for example, established six use districts, starting with single-family residential uses and ending with the most obstructive manufacturing uses, including plants for sewage disposal. See *Village of Euclid*, 272 U.S. at 380–81.

¹⁰ See New York, N.Y., Zoning Resolution (1916).

¹¹ See *id.* At a floor area ratio of 15, a developer may construct a 15-story building occupying the entire lot, a 30-story building occupying half the lot, and so forth.

¹² Charles M. Haar & Jerold S. Kayden, *Foreword: Zoning at Sixty—A Time for Anniversary Reckonings*, in *ZONING AND THE AMERICAN DREAM: PROMISES STILL TO KEEP* at ix, ix–xi (Charles M. Haar & Jerold S. Kayden eds., 1989).

¹³ See, e.g., HAAR & WOLF, *supra* note 8, at 255–56.

¹⁴ See, e.g., RICHARD BABCOCK, *THE ZONING GAME: MUNICIPAL PRACTICES AND POLICIES* 6–7 (1966).

The first wave of truly revisionist zoning tempered the generally applicable prescriptive regulations with the discretionary mechanisms of special permits, conditional uses, planned unit developments, and cluster zoning.¹⁵ Landowners would present development plans to a local government, which would review them on a project-by-project basis and, in an exercise of discretionary authority, approve or disapprove them according to special guidelines that overrode the underlying command-and-control requirements.

The second wave of revisionist zoning recognized market forces as an additional source of flexibility and introduced such market-based approaches as incentive zoning and TDR.¹⁶ Recognizing the power of land use regulations to confer as well as take away property rights, landowners now would be encouraged, rather than commanded, to provide or preserve desired public amenities in their private developments through the powerful force of financial self-interest. Public and private interests would join forces for the common good.

III. MARKET-BASED LAND USE REGULATORY APPROACHES

A. Incentive Zoning

Incentive zoning is a land use regulatory technique through which cities grant private real estate developers the legal right to disregard otherwise applicable zoning restrictions in return for providing environmental amenities such as public parks and plazas and, most recently, social facilities and services such as affordable housing, day care centers, and job training.¹⁷ Command-and-control gives way to a bargaining process between local government and private developer.

Incentive zoning expressly enlists market forces by offering developers a choice of regulatory incentives that either increase revenue or reduce costs. The most popular incentive, the floor area bonus, grants developers the right to build additional rentable space.¹⁸ Other incentives may exempt development from height and setback requirements or reduce the required parking ratio and

¹⁵ See *id.* at 7-11.

¹⁶ See, e.g., T. LASSAR, *CARROTS & STICKS: NEW ZONING DOWNTOWN* 12-19, 184-88 (1989).

¹⁷ Jerold S. Kayden, *Zoning for Dollars: New Rules for an Old Game? Comments on the Municipal Art Society and Nollan Cases*, 39 J. URB. & CONTEMP. L. 3, 3 (1991).

¹⁸ See *id.* at 5 & n.7.

thereby significantly reduce construction costs.¹⁹ When the value of an incentive exceeds the cost of providing an amenity, then developers may find it in their self-interest to engage in such public-private transactions.²⁰

Cities and suburbs across the United States use incentive zoning. New York City introduced the technique in 1961 by allowing developers to construct ten square feet of extra office space for every square foot of plaza, as well as three bonus square feet for every square foot of arcade.²¹ Through the 1960s and 1970s, the city expanded its list of incentive zoning amenities to include through-block arcades, covered pedestrian spaces, theatres, and elevated plazas.²² The city's policy garnered impressive developer participation, with more than two-thirds of all office buildings and most residential apartment towers receiving substantial zoning bonuses.²³ Between 1963 and 1975, the city doled out more than twelve million square feet of bonus office space to ninety-one office buildings.²⁴

Other cities quickly introduced their own versions of incentive zoning, appropriately tailored to their respective environments. Thus, San Francisco, California, offered zoning bonuses to encourage provision of rooftop observatories.²⁵ Anchorage, Alaska, furnished incentives for climate-controlled courtyards.²⁶ Cincinnati, Ohio, granted incentives for historic preservation.²⁷ Miami, Florida, employed incentives to encourage retail activity at street level.²⁸ Most recently, cities have expanded their menu of amenities to low-income housing, day care centers, and job training.²⁹

Given its express reliance on market forces to accomplish public objectives, incentive zoning poses special questions that traditional command-and-control land use regulations do not present.

¹⁹ See *id.*

²⁰ See J. GETZELS & M. JAFFEE, ZONING BONUSES IN CENTRAL CITIES 21 (Planning Advisory Service Report No. 410, 1988).

²¹ See JEROLD S. KAYDEN, INCENTIVE ZONING IN NEW YORK CITY: A COST-BENEFIT ANALYSIS 10 (Policy Analysis Series No. 201, 1978).

²² See *id.* at 12-14.

²³ See *id.* at 10-11.

²⁴ See *id.* at 22-23.

²⁵ See Peter S. Svirsky, *San Francisco: The Downtown Development Bonus System*, in THE NEW ZONING: LEGAL, ADMINISTRATIVE, AND ECONOMIC CONCEPTS AND TECHNIQUES 139, 145 (Norman Marcus & Marilyn W. Groves eds., 1970).

²⁶ See ROBERT S. COOK, JR., ZONING FOR DOWNTOWN URBAN DESIGN 109 (1980).

²⁷ See GETZELS & JAFFEE, *supra* note 20, at 8.

²⁸ See *id.* at 6.

²⁹ See Kayden, *supra* note 17, at 5-6.

1. The Necessity Issue

Is the incentive necessary to obtain the amenity? Many amenities—such as parks, plazas, and covered pedestrian spaces—make a development project more attractive to tenants and thus may pay for themselves through higher rents. Several studies have demonstrated, for example, that parkland and public squares adjacent to buildings increase the capitalized value of such buildings.³⁰ If the private market would provide the desired public amenity without behavior-altering government intervention—because the amenity increases the attractiveness of the project and pays for itself—then it is not only unnecessary but harmful to offer incentives that themselves may exact a social cost, such as the loss of light and air, or more congestion.³¹

The major hurdle for policymakers is to develop reliable methodologies for measuring when incentives are necessary. Several government subsidy programs, like the United States's Urban Development Action Grant program, have relied upon so-called "but for" tests—"but for" the incentive or subsidy, the public benefit would not have been provided.³² These programs have achieved a mottled record of success in ferreting out unnecessary public assistance.³³

2. The Pricing Issue

How much of an incentive should a city provide to developers in return for a desired public amenity? In this context, the "price," for example, of bonus floor area is the amenity that the city demands in return. The "price" is too low when the city could have obtained more amenity for the same incentive or dispensed less incentive for the same amenity. From the public's point of view, government ideally would provide only that amount of incentive precisely necessary to get the job done and not one square foot more, because

³⁰ See T. FOX, *URBAN OPEN SPACE: AN INVESTMENT THAT PAYS* 34-35 (1990). As the consumer's appetite for environmentally safe products intensifies, it may be in the financial interests of the producer substantially to reduce or eliminate pollution byproducts.

³¹ A public interest organization succeeded in halting construction of a massive office-residential project at New York City's Columbus Circle, in part because the project would have cast a shadow over the city's Central Park. See Taylor, *The Shadow: The Uproar Over the Big Coliseum Project*, NEW YORK, Oct. 5, 1987, at 40.

³² See generally Eric Stevenson, *A Developer's Guide to Urban Development Action Grants*, 10 REAL EST. REV. 80, 82 (Winter 1981).

³³ See Gruen, *Public/Private Projects—A Better Way for Downtowns*, 45 URB. LAND 5 (Aug. 1986).

the incentive itself carries a social cost.³⁴ Furthermore, it is not a function of government to grant financial windfalls to private recipients when the public interest does not justify it.

The problem for the policymaker is in setting the correct price. In theory, if the net capitalized value of a floor area bonus marginally exceeds the full cost of the amenity, then the developer should be willing to engage in the transaction.³⁵ In practice, the market only reveals when the incentive is too low. In that case, no developer will respond to the city's regulatory enticements. On the other hand, widespread use of incentives only assures the policymaker that the incentive is sufficient, without providing the additionally desirable assurance that it is not overly generous.

Unfortunately, the experience in many United States cities shows a consistent pattern of underpricing incentives by granting more of them than is necessary to encourage the desired private behavior.³⁶ The reasons for this practice include a paucity of on-staff real estate financial expertise, the utilization of inadequate or incorrect analytical frameworks for evaluating deals,³⁷ and the absence of any market-driven imperative for government to negotiate the best deal.

3. The Baseline Property Rights Issue

Incentive zoning operates above a regulatory foundation, allowing developers to ignore baseline bulk, height, and other command-and-control restrictions. Some observers believe that incentive zoning encourages governments cynically to manipulate the baseline, tightening regulation beyond what otherwise would be appropriate, then loosening it in return for the provision of amenities.³⁸ For example, objective physical planning criteria for a given area might suggest a floor area ratio of fifteen for office buildings.³⁹ City planners also may want small public parks in the area. Instead of giving floor area

³⁴ See *supra* note 31 and accompanying text.

³⁵ This is not an easy calculation and inherently relies upon many assumptions. See GETZELS & JAFFE, *supra* note 20, at 21 (discussing "cost plus" methodology).

³⁶ See OFFICE OF THE NEW YORK STATE COMPTROLLER, NEW YORK CITY PLANNING COMMISSION: GRANTING SPECIAL PERMITS FOR BONUS FLOOR AREA Report A-23-88, at MS-3 (Sept. 15, 1988); Steinbrueck, *Public Costs and Private Benefits*, CITYWATCH, Mar. 1989, at 304; KAYDEN, *supra* note 21, at 59-65 (discussing New York City experience).

³⁷ See OFFICE OF THE NEW YORK STATE COMPTROLLER, *supra* note 36, at MS-6-7.

³⁸ See Daniel R. Mandelker, *The Basic Philosophy of Zoning: Incentive or Restraint?*, in *THE NEW ZONING*, *supra* note 25, at 14, 18-21.

³⁹ Such physical planning criteria includes the capacity of public infrastructure, such as sewers, streets, sidewalks, and mass transit, and the character of existing buildings in the area. See Kayden, *supra* note 17, at 26-27.

bonuses on top of a fifteen-floor area ratio baseline, the planners decide to establish the baseline ratio at twelve, then offer bonuses allowing developers to obtain a fifteen. Thus, government will be able to have its cake, getting an environment produced by a fifteen as opposed to a fifteen-plus-bonus floor area ratio, and eat it too, with the creation of the parks.⁴⁰ Indeed, the United States Supreme Court has posited this overleveraged scenario to justify invalidation of a land use regulatory action.⁴¹

Because evidence supporting the claim that cities consistently manipulate baseline zoning never has been assembled, one is left to speculate as to the frequency of its occurrence. To the extent that incentive zoning bonuses have arisen as afterthoughts to existing zoning density limitations on the books for many years—not an uncommon scenario for incentive zoning programs—the overleveraged scenario appears unlikely. To the extent that bonuses arise in the context of a complete overhaul of a city's zoning ordinance, the charge acquires greater, although hardly overpowering, resonance.

4. The Equity Issue

By violating baseline zoning, albeit for an arguably noble cause, incentive zoning creates social costs, as well as benefits, that may be unfairly distributed. Assume a city council has determined that the city is better off having more amenities, even with the social costs associated with floor area incentives such as less light and air and more congestion.⁴² Even if this judgment is a good one, there still may be distributional consequences on a neighborhood-by-neighborhood basis. For example, the tenants of a building adjacent to an incentive building substantially larger than otherwise permitted will not be happy with the enlarged shadow cast over their residences or with the greater street and sidewalk congestion.

This critique is most powerful when, as is increasingly the case, the amenity is geographically or conceptually unrelated to the development project enjoying the incentive.⁴³ While the city as a whole may benefit from a developer's contribution of a new library miles away in return for increased density, the neighborhood immediately surrounding the bonused project on balance suffers disproportion-

⁴⁰ See *id.* at 46.

⁴¹ See *Nollan v. California Coastal Comm'n*, 483 U.S. 825, 837 n.5 (1987).

⁴² This has been referred to as incentive zoning's "Tale of Two Cities." See Kayden, *supra* note 17, at 28–29.

⁴³ See *id.* at 25–26.

ately.⁴⁴ One class of city residents bears greater burdens than any other class for the benefit of all, creating a large class of winners and a small class of losers.⁴⁵

Existing incentive zoning programs do not systematically address these concerns. While the commonplace procedural protections of public hearings and information disclosure help assure that voices are heard and no one is caught off-guard,⁴⁶ they do not guarantee the fair distribution of benefits and burdens. New efforts to attain a "fair share" geographic allocation of desirable and undesirable land uses within cities⁴⁷ may offer useful models for market-based programs that allow specific users to violate otherwise applicable land use or environmental standards.⁴⁸

5. The Delegation/Moral Corruption Issue

Is a system that allows individuals to "buy" their way out of compliance with otherwise applicable law⁴⁹ justifiable on a broader basis? Why should some individuals observe the law when others can pay to elude it? If the rule of law isn't the rule of law, can anarchy be far behind? Although one may argue facetiously that this is a case of one law (incentive zoning) trumping another (baseline zoning), that argument begs the question. Because zoning rules theoretically are derived from objective physical planning criteria—the capacity of streets, sidewalks, sewers, and water pipes to accommodate development and its attendant population, the amount of light and air at street level, the compatibility of new structures with

⁴⁴ See, e.g., *Municipal Art Soc'y v. City of New York*, 522 N.Y.S.2d 800, 803-04 (Sup. Ct. 1987).

⁴⁵ Indeed, much of the Supreme Court's Just Compensation Clause jurisprudence turns on the concept that individuals should not be forced to bear burdens that, in all fairness and justice, should be borne by society as a whole. See *Armstrong v. United States*, 364 U.S. 40, 49 (1960).

⁴⁶ See, e.g., New York, N.Y., New York City Charter, Uniform Land Use Review Procedure § 197-c (1989).

⁴⁷ See *id.* § 203. The New York law states in part:

The criteria shall be designed to further the fair distribution among communities of the burdens and benefits associated with city facilities, consistent with community needs for services and efficient and cost effective delivery of services and with due regard for the social and economic impacts of such facilities upon the areas surrounding the sites.

Id.

⁴⁸ Pollution charge or permit/credit trading programs that allow a company to "buy out" of pollution compliance while continuing to pollute can create similar problems if the pollution has a local as well as citywide or regional impact. See PROJECT 88, *supra* note 1, at 9.

⁴⁹ This has been referred to as a "license to pollute." *Id.* at 2.

the existing neighborhood, and so forth⁵⁰—any overriding of that zoning intrinsically undermines the legitimacy of the entire regulatory system.

Once landowners understand that the command-and-control base limitations are not sacrosanct, they will be less inclined to accede to the limitations' necessity.⁵¹ Dazzled by the array of potential amenities, regulators will fall prey to the corruption of the transaction and give the "green light" otherwise undesirable projects solely to obtain the benefits.⁵² Judges, whose frequent task it is to review the legitimacy of goals that government proffers in support of regulatory efforts, now will be more skeptical of such goals.⁵³

Available evidence from the field does not demonstrate any wholesale discounting of basic zoning. While regulators doubtless have approved questionable projects,⁵⁴ and while some individuals have urged that they should be entitled to the higher densities as a matter of right,⁵⁵ any state court docket will reveal that baseline zoning continues to restrict and aggravate owners.⁵⁶ In the final analysis, incentive zoning necessarily relies on the rigidity of baseline command-and-control zoning in order to generate the financial benefit from ignoring that baseline.⁵⁷

B. Transfer of Development Rights

TDR programs authorize the transfer, usually by sale, of development rights from one property to another.⁵⁸ Borrowing from the

⁵⁰ See *supra* note 29 and accompanying text.

⁵¹ See WILLIAM H. WHYTE, *CITY 237, 278* (1988).

⁵² See PROPERTY ADVISORY GROUP, DEPARTMENT OF ENVIRONMENT, PLANNING GAIN, § 5.04, at 7 (1981) (discussing parallel British incentive zoning system of planning gain).

⁵³ See *Nollan v. California Coastal Comm'n*, 483 U.S. 825, at 837 n.5 (purpose underlying restriction "positively militates against the practice" of trading waivers for many types of amenities).

⁵⁴ See, e.g., *Municipal Art Soc'y v. City of New York*, 522 N.Y.S.2d 800, 803-04 (Sup. Ct. 1987) (New York City improperly granted zoning bonus in order to obtain citywide amenities).

⁵⁵ See, e.g., Michael Heyman, *Innovative Land Regulation and Comprehensive Planning in THE NEW ZONING*, *supra* note 25, at 55.

⁵⁶ See Jerold S. Kayden, *Judges As Planners: Limited or General Partners*, in *ZONING AND THE AMERICAN DREAM*, *supra* note 12, at 223, 246-47 nn. 58-64.

⁵⁷ Cf. PROJECT 88, *supra* note 1, at 4 n.19 (noting that incentive-based environmental policies depend on underlying command-and-control regulatory system).

⁵⁸ See, e.g., *Penn Cent. Transp. Co. v. New York City*, 438 U.S. 104, 113-14 (1978); *Fred F. French Inv. Co. v. City of New York*, 350 N.E.2d 381, 384 (1976); JOHN S. COSTONIS, *SPACE ADRIFT: SAVING URBAN LANDMARKS THROUGH THE CHICAGO PLAN* 32-33 (1974); Norman Marcus, *Air Rights Transfers in New York City*, 36 *LAW & CONTEMP. PROBS.* 372, 375 (1971).

metaphor of property as a bundle of sticks, such programs classify the right to develop as a stick capable of being severed from geographically specific sites and sold like a fungible commodity.⁵⁹ Government agencies have implemented TDR programs most frequently to mitigate the financial impact resulting from restrictions on environmentally sensitive lands⁶⁰ or historic landmark buildings.⁶¹ When government prohibits owners from developing sensitive land or demolishing landmarks, TDR programs theoretically permit owners to recoup some, if not all, of the value loss that these restrictions cause.⁶² In this way, TDR programs help address the "wipe-out" problem⁶³ associated with land use regulations that take away much private value.

TDR programs commonly operate under one of two administrative models. In the "two-party" model, landowners sell their available development rights directly or with the assistance of a broker to interested buyers.⁶⁴ In the "bank" model, an entity, usually a government agency or nonprofit organization, purchases the development rights and banks them for later sale to third parties.⁶⁵

Under either model, local governments face several key administrative and policy decisions before implementation. A city must define the types of parcels from which development rights may be transferred. The city may define such parcels categorically—for example, all farmland over a certain number of acres or all parcels containing historic structures defined by specific criteria⁶⁶—or geographically—all sites within in a given mapped district, sometimes known as the "sending district".⁶⁷ In addition, cities must determine sites that may receive development rights. This determination also may be by category, but more often these sites comprise geographical areas known as "receiving districts".⁶⁸

⁵⁹ See COSTONIS, *supra* note 58, at 35.

⁶⁰ See PROTECTING THE NEW JERSEY PINELANDS 110 (B. Collins & E. Russell eds., 1988).

⁶¹ See, e.g., *Penn Cent.*, 438 U.S. at 113-14; Marcus, *supra* note 58, at 375.

⁶² See *Penn Cent.*, 438 U.S. at 137.

⁶³ See WINDFALLS FOR WIPEOUTS: LAND VALUE CAPTURE AND COMPENSATION 5 (D. Hagman & D. Misczynski eds., 1978).

⁶⁴ See *Penn Cent.*, 438 U.S. at 113-14; Marcus, *supra* note 58, at 375.

⁶⁵ See COSTONIS, *supra* note 58, at 42.

⁶⁶ New York City, for example, has defined a landmark as "thirty years old or older . . . [with] a special character or special historical or aesthetic interest or value as part of the development, heritage or cultural characteristics of the city, state or nation . . ." *Penn Cent.*, 438 U.S. at 110-11 n.9.

⁶⁷ See COSTONIS, *supra* note 58, at 50-51.

⁶⁸ See *id.*

The required connection between sending and receiving parcels varies. Some programs limit transfers to adjacent or neighboring parcels.⁶⁹ Others allow transfers to parcels within specified receiving districts.⁷⁰ Still others contemplate transfers throughout a jurisdiction.⁷¹ Whether they purchase development rights directly from the selling owner of the rights or from a development rights bank, eventual users must be able to exceed otherwise applicable command-and control zoning restrictions by the amount purchased. Otherwise, the buyers would have no use for the excess rights.

One may understand TDR in some respects as a variant of incentive zoning.⁷² TDR programs only work when there is a demand for extra development rights.⁷³ They require that government waive otherwise applicable zoning for the buyer of development rights.⁷⁴ Although it is claimed that, unlike TDR programs, incentive zoning increases the overall citywide density of development,⁷⁵ this need not always be the case. Imagine the situation in which a city wishes to preserve a vacant parcel of land for open space, and the land is zoned at a floor area ratio of two. The city grants a two floor area bonus to a developer of another similarly sized property, who in return makes to the city a cash payment that the city uses to purchase the development rights of the vacant parcel. This would then constitute use of incentive zoning for land preservation purposes, with no increase in overall density.

Although the idea of TDR has stimulated more scholarly interest than incentive zoning,⁷⁶ actual program implementation and use is far rarer. New York City has had more experience with its landmark preservation TDR ordinance than most cities.⁷⁷ Over the years, the

⁶⁹ See *Penn Cent. Transp. Co. v. New York City*, 438 U.S. 104, 113-14 (1978) (discussing New York City's program).

⁷⁰ See LASSAR, *supra* note 16, at 186 (discussing Seattle's program).

⁷¹ See *id.* at 83 (discussing San Francisco's program).

⁷² See COSTONIS, *supra* note 58, at 28-39.

⁷³ See LASSAR, *supra* note 16, at 83.

⁷⁴ See *supra* note 17 and accompanying text.

⁷⁵ See COSTONIS, *supra* note 58, at 33-34.

⁷⁶ While only one law review article has dealt exclusively with the general legality of incentive zoning, see David J. Benson, *Bonus or Incentive Zoning—Legal Implications*, 21 SYRACUSE L. REV. 895 (1970), many have analyzed TDR. See, e.g., John J. Costonis, *Development Rights Transfer: An Exploratory Essay*, 83 YALE L.J. 75 (1973); Norman Marcus, *Mandatory Development Rights Transfer and the Taking Clause: The Case of Manhattan's Tudor City Parks*, 24 BUFFALO L. REV. 77 (1975); Hershel J. Richman & Lane H. Kendig, *Transfer Development Rights—A Pragmatic View*, 9 URB. LAW. 571 (1977).

⁷⁷ Nonetheless, fewer than 15 cases of transfers from landmark buildings were recorded during the program's first 19 years of operation. See LASSAR, *supra* note 16, at 187.

law has permitted the transfer of development rights from lots that landmarks occupy to adjacent lots, usually defined as contiguous lots; lots across a street or opposite the landmark lot; or, for corner lots, lots fronting on the same street intersection.⁷⁸ The maximum amount of rights transferable is the maximum floor area authorized for the parcel less existing built floor area.⁷⁹ The maximum floor area increase allowable on the receiving site is twenty percent above the baseline floor area ratio.⁸⁰ Before permitting transfers, the city planning commission must find that the transfer will not create undue planning problems for the receiving site, and that preservation of the landmark will continue.⁸¹ An instrument of transfer and deed restrictions help record the deal and guarantee that future owners of the selling parcel will not build in the now sterilized air rights.⁸²

Other TDR programs attempt to preserve open space, agricultural properties, and other environmentally sensitive land. Montgomery County, Maryland,⁸³ and Burlington County, New Jersey,⁸⁴ have agricultural land TDR programs, while Chesterfield Township, New Jersey,⁸⁵ and the Pinelands in New Jersey,⁸⁶ have TDR programs for open space and wetlands.

TDR programs raise many of the same market-based regulatory policy issues that incentive zoning poses, but present additional concerns specifically related to the trading of rights.

1. The Market Creation Issue

TDR programs depend upon the creation of a functioning marketplace, with buyers, sellers, and "market-greasing" intermediaries. Because it is relatively easy to obtain needed floor area through other mechanisms, such as incentive zoning, zoning amendments, and variances, TDR programs have experienced problems generating demand for development rights at acceptable prices to sellers.⁸⁷ Without such demand, TDR programs cannot accomplish their public

⁷⁸ See New York, N. Y., Zoning Resolution art. VII, ch. 4, §§ 74-79 to -793 (1971).

⁷⁹ *Id.*

⁸⁰ *Id.*

⁸¹ *Id.*

⁸² *Id.*

⁸³ See James E. Peters, *Saving Farmland: How Well Have We Done*, in *PLANNING* 13 (Sept. 1990); Thompson, *Zoned for Agriculture*, *COUNTRY J.*, Nov. 1983, at 84, 95.

⁸⁴ See Peters, *supra* note 83, at 16-17.

⁸⁵ See HAAR & WOLF, *supra* note 8, at 275.

⁸⁶ See *PROTECTING THE NEW JERSEY PINELANDS*, *supra* note 60, at 110.

⁸⁷ See LASSAR, *supra* note 16, at 83.

purpose objective of preserving environmentally sensitive lands or historically significant buildings. Not surprisingly, because transactions are relatively rare, investment bankers and other fee-driven market intermediaries have been notable for their absence in extant TDR programs.

2. The Market Integrity Issue

Markets for development rights depend on stable and predictable zoning, a species as endangered as the whooping crane. The demand for and price of development rights are direct functions of a city's overall regulatory policy. If the city regulates tightly in designated receiving districts, it may create demand for development rights in such areas. Conversely, if the city regulates leniently, the demand for such rights likely will plummet. One may analogize the government's role to that of the Federal Reserve Board, whose manipulation of the money supply affects interest rates and the competition for funds. When buyers and sellers have little confidence in the predictability and stability of actions that city officials take, then they will be less willing to forge a functioning marketplace for development rights.

3. The Transaction Cost Issue

Experience from the few operating TDR programs suggests that the transaction costs associated with deals and program administration may be relatively high.⁸⁸ Unlike incentive zoning, in which the specific terms of the trade usually are set forth in the zoning ordinance,⁸⁹ TDR transactions involve time-consuming negotiations over price, preparation of purchase and sale agreements and other documents, and closings. Valuation difficulties plague buyers and sellers alike. For the seller, the development rights are worth the difference between the capitalized value of a new development and the value of the existing use. For the buyer, the development rights reflect a value based on the buyer's site and project plans.

Because TDR programs traditionally operate in a discretionary manner, with each transaction individually scrutinized by the public sector, administrative costs can be steep. Moreover, government incurs monitoring costs to keep track of transferred rights and to

⁸⁸ See, e.g., Small & Derr, *Controlling Development Rights: The Alternatives*, 31 J. SOIL & WATER CONSERVATION 190, 193 (1976).

⁸⁹ See, e.g., New York, N.Y., Zoning Resolution, art. VII, ch. 4, §§ 74-79 to-793 (1971).

ensure that future owners do not build on parcels where rights already have been sold. Finally, if government is the buyer under the "bank" model, further valuation questions arise.⁹⁰

IV. CONCLUSION

As United States and global⁹¹ environmental protection policy-makers evince greater interest in market-based regulatory approaches and less interest in command-and-control strategies, it is essential not only to acknowledge the unknowns, but also to review existing market-based regulatory experiences. The questions for environmental market-based solutions track to some degree the issues that market-based land use regulatory policies raise. How does one establish property rights in the pollution area?⁹² How should government allocate and price pollution permits/credits?⁹³ How far should the bubble extend for determining overall pollution levels, and what about offsets and netting?⁹⁴ Will competitive markets work, with enough buyers and sellers?⁹⁵ Should a permit/credit bank be established?⁹⁶ Who will monitor and enforce the marketplace?⁹⁷ How high will transaction costs be?⁹⁸ How can market-based programs that tolerate, indeed sell, the right to pollute themselves be "sold" to those members of the public who are convinced of the absolute evil of pollution and the need to eliminate it at any cost?⁹⁹ Can incentives assure development of better technologies?¹⁰⁰ What about equity concerns?¹⁰¹

Obviously, land use regulatory experiences with incentive zoning and TDR programs do not provide precise answers to these questions. In particular, neither of these techniques was designed with marginal cost decisionmaking at the crux of their operation. Nonetheless, the empirical wisdom derived from their years of application

⁹⁰ See *supra* note 37 and accompanying text.

⁹¹ See PROJECT 88, *supra* note 1, at 3, 6-7.

⁹² See *id.* at 6-7, 91-92.

⁹³ See *id.* at 6-7.

⁹⁴ See *id.* at 9.

⁹⁵ See *id.* at 7; Robert W. Hahn & Gordon L. Hester, *Where Did All the Markets Go? An Analysis of EPA's Emissions Trading Program*, 6 YALE J. ON REG. 109, 109-53 (1989).

⁹⁶ Hahn & Hester, *supra* note 95, at 129.

⁹⁷ See *id.* at 143.

⁹⁸ See *id.* at 140.

⁹⁹ See generally STEVEN KELMAN, *WHAT PRICE INCENTIVES? ECONOMISTS AND THE ENVIRONMENT* (1981).

¹⁰⁰ See *id.* at 9.

¹⁰¹ See *id.* at 17-18, 38, 86-88.

offers some comparative insight for existing¹⁰² and forthcoming market-based efforts in national and international environmental policy.

¹⁰² It is worth noting, of course, that researchers have examined the operation of existing market-based environmental approaches for years. See, e.g., Richard B. Stewart, *Economics, Environment, and the Limits of Legal Control*, 9 HARV. ENVTL. L. REV. 1, 14 (1985) (describing studies of EPA's emissions trading program).