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How Much is Enough--Assessing the Impact of Dolan v. City of Tigard ?

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HOW MUCH IS ENOUGH? ASSESSING THE IMPACT OF *DOLAN V. CITY OF TIGARD*

Property has its duties as well as its rights

THOMAS DRUMMOND[1]

I. INTRODUCTION

The Fifth Amendment of the Constitution provides that "private property [shall not] be taken for public use, without just compensation."[2] For well over a century,[3] the Supreme Court took an ad hoc, factual approach in defining the extent and scope of the takings doctrine.[4] During the 1980s and the early 1990s, however, the Court began to refine and expand upon their previously vague exegesis of the takings clause.[5] In 1994, the Supreme Court added

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1. THOMAS DRUMMOND, THE OXFORD DICTIONARY OF QUOTATIONS 258, (Angela Portington ed., 4th ed. 1992).

2. U.S. CONST. amend. V. The Fifth Amendment applies to the states through the Fourteenth Amendment. *See* Chicago, Burlington & Quincy R.R. v. Chicago, 166 U.S. 226, 234 (1897) ("[A] state may not, by any of its agencies, disregard the prohibitions of the Fourteenth Amendment.").

3. The first takings case reached the Supreme Court in 1833. *See* Barron v. City of Baltimore, 32 U.S. (7 Pet.) 243, 243 (1833) (holding that the states were not bound by the Fifth Amendment). The Supreme Court began laying a foundation for the takings doctrine in 1887. *See* Mugler v. Kansas, 123 U.S. 623, 623 (1887) (reading the takings clause literally and holding that government action in the form of regulation could not amount to a "taking" under the Fifth Amendment).

4. Penn Cent. Transp. Co. v. New York City, 438 U.S. 104, 124 (1978) (stating that the Court did not wish to pronounce any "set formula," but preferred instead to "engag[e] in . . . essentially ad hoc, factual inquiries" (citations omitted)).

5. *See* Lucas v. South Carolina Coastal Council, 112 S. Ct. 2886, 2886 (1992) (creating a categorical rule for regulations that deny a landowner of all economically viable use of their property); Nollan v. California Coastal Comm'n, 483 U.S. 825, 825 (1987) (establishing the "essential nexus" test); Loretto v. Teleprompter Manhattan CATV Corp., 458 U.S. 419, 419-20 (1982) (creating a categorical rule for physical takings); Agins v. Tiburon, 447 U.S. 255, 255 (1980) (stating a two factor takings test). These cases will be discussed in greater detail in part II. *See also* DENNIS J. COYLE, PROPERTY RIGHTS AND THE CONSTITUTION 174-76 (1993) (analyzing takings cases decided by the Supreme Court

another set of factors to consider in a takings analysis when it decided the case of *Dolan v. City of Tigard*.[6]

Florence Dolan sought a permit from the city of Tigard, Oregon, to expand her plumbing store. The city refused to grant the permit unless she agreed to dedicate a certain portion of her property for a drainage system and bikepath.[7] Requiring a "rough proportionality" between the interest being asserted and the actual impact of the landowner's proposed property use,[8] the Supreme Court held that the city's action constituted a taking without just compensation.[9] In addition, the city was required to quantify its findings in order to support its decision to deny the permit.[10] Writing for the majority, Chief Justice Rehnquist sought to elevate the position of the takings clause by stating that it should not be "relegated to the status of a poor relation."[11]

Some commentators feel that *Dolan* places severe restrictions on the government when regulating private property uses because it shifts the burden of proof from the plaintiff to the government.[12]

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in the 1980s and asserting that although the Court gave more attention to landowner cases than in prior decades, landowners still have an unfavorable status before the Court).

6. 114 S. Ct. 2309 (1994).

7. *Dolan*, 114 S. Ct. at 2314.

8. The Court announced a new two prong test. The first prong, established in Nollan v. California Coastal Comm'n, 483 U.S. 825 (1987), stated that a permit condition must (1) substantially advance a legitimate state interest and (2) contain an "essential nexus" between the land use regulation and the state's land use goals. *Id.* at 834, 837. The new second prong, established in *Dolan*, requires a "rough proportionality" between the legitimate interest the government asserts and the actual impact on the landowner's proposed property use. *Dolan*, 114 S. Ct. at 2319. *See also infra* parts II.B.1, II.B.2 (explaining the two prong standard of development exaction cases).

9. *Dolan*, 114 S. Ct. at 2319. Many of the cases on which the Supreme Court relied in developing its new takings test used the term "reasonable relationship." The Supreme Court rejected this terminology because it sounded too similar to the "rational basis" test used in Equal Protection claims. *Id.* The cases on which the Court relied will be discussed *infra* in part III.

10. *Id.* at 2322.

11. *Id.* at 2320.

12. The *New York Times* called *Dolan* a "substantial victory" that "placed new limits on the ability of governments to require developers to set aside part of their property for environmental or other public uses." Linda Greenhouse, *High Court, in a 5-4 Split, Limits Public Power on Private Property*, N.Y. TIMES, June 25, 1994, § 1, at 1. The *Miami Herald* stated that *Dolan* "may be the most significant victory for property rights in decades." Aaron Epstein, *City's Authority Over Use of Land Getting Key Supreme Court Test*, MIAMI HERALD, Mar. 23, 1994, at 1. Pete Williams of the *NBC Nightly News* commented that "[c]onservatives say this ruling goes beyond just city planning, and invites a flood of lawsuits against government demands that are made on landowners in the name of protecting the environment." *Nightly News* (NBC television broadcast, June 24, 1994). Justice Stevens stated his in dissent in *Dolan* that "the Court . . . is indeed extending its

Governments must now justify decisions affecting particular landowners. Some have also suggested that *Dolan* will increase litigation as parties challenge the methodologies used by the government to meet the quantification standard.[13]

Although *Dolan* may place a somewhat larger burden on cities and agencies, it is not the property rights victory that many suggest. In construing *Dolan*, courts are likely to defer to the governments' reasonable efforts to quantify the grounds for their decisions, such as the decision to employ methodologies commonly used in other environmental decision-making. Courts may not defer as greatly to state and local governments as they do to administrative agencies, given the unique characteristics of takings cases.[14] However, governments should be able to meet their new burden.[15]

This Note will analyze the degree of quantification courts may now require from governments in takings claims and the likelihood that the methodologies used by governments will be found inadequate. First, this Note will outline the background leading up to *Dolan* and examine the case itself. Second, it will analyze the cases relied on by the *Dolan* court to support its rough proportionality test and ascertain if they are helpful in overcoming a future takings claim. Third, the Note will look at courts' past treatment of methodology challenges in claims brought under the National Environmental Policy Act (NEPA) and the Clean Air Act (CAA) to show the amount of deference courts have traditionally

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welcome mat to a significant new class of litigants" and that "property owners have surely found a new friend today." *Dolan v. City of Tigard*, 114 S. Ct. 2309, 2326 (1994) (Stevens, J., dissenting).

Senator Phil Gramm recently introduced legislation to statutorily expand *Dolan's* property right protection to regulatory takings claims. *See* S. 2410, 103rd Cong., 2d Sess. (1994) ("[I]n the recent landmark Supreme Court case of Dolan versus City of Tigard, Chief Justice Rehnquist correctly points out the near evisceration of one of the most fundamental rights upon which our Nation was founded."). The bill requires compensation to be paid by the government when its action reduces property value by either more than 25% or $10,000. *Id.* Governments do not have to pay compensation for property uses that are public nuisances and that will harm the public. *Id.*

13. Stephen L. Kass & Michael B. Gerrard, *Meeting the "Rough Proportionality" Test of Dolan*, N.Y. L.J., July 22, 1994, at 3, 35.

14. *See infra* notes 204-29 and accompanying text (evaluating whether courts will give more or less deference to state and local governments in takings cases than they would to administrative agencies in environmental regulation).

15. *Cf.* Kass & Gerrard, *supra* note 13, at 3, 35 (stating that courts have given great deference to agencies' choices of methodologies in the context of environmental impact statements, but predicting that a "much more searching inquiry is foreseeable in the context of takings adjudications").

given to governments' choices and uses of methodology. Finally, this Note suggests possible ways state and local governments can comply with the *Dolan* test. By using common, well-known methodologies often used in NEPA and CAA cases, governments should be able to meet any additional burden imposed by *Dolan*.

II. BACKGROUND

A. *Takings Generally: Physical and Regulatory*

The Supreme Court has had a difficult time formulating a consistent approach to the Fifth Amendment takings problem and has resorted to using ad hoc, factual inquiries to resolve takings cases.[16] In interpreting takings cases, scholars have had an equally difficult time trying to draw some method from the Court's apparent madness.[17] Most identify two general categories of takings claims: those that involve physical occupation and those that regulate a landowner's use of land to such an extent that it becomes a

16. *Penn Central Trans. Co. v. New York City*, 438 U.S. 104, 124 (1978); *see also supra* text accompanying note 4.

17. Many commentators have developed a consolidated approach to takings analysis. *See, e.g.*, RICHARD A. EPSTEIN, TAKINGS: PRIVATE PROPERTY AND THE POWER OF EMINENT DOMAIN 331-33 (1985) (asserting that the Fifth Amendment prohibits all government activity that expressly redistributes private property rights); John J. Costonis, *Presumptive and Per Se Takings: A Decisional Model for the Takings Issue*, 58 N.Y.U. L. REV. 465, 512-23 (1983) (creating a four-part test for determining when compensation should be required); John A. Humbach, *A Unifying Theory for the Just-Compensation Cases: Takings, Regulation, and Public Use*, 34 RUTGERS L. REV. 243, 254-62 (1982) (suggesting a theory that would distinguish protected property rights from unprotected economic freedoms to determine taking claims); Andrea L. Peterson, *The Takings Clause: In Search of Underlying Principles Part II—Takings as Intentional Deprivations of Property Without Moral Justification*, 78 CAL. L. REV. 53, 55 (1990) (arguing that government should escape paying just compensation only when intentionally depriving landowners of economic value, when punishing wrongful conduct or when reserving the right to alter the economic value); Andrea L. Peterson, *The Takings Clause: In Search of Underlying Principles Part I—A Critique of Current Takings Clause Doctrine*, 77 CAL. L. REV. 1301, 1301 (1989) (accusing the Supreme Court of being more confusing than helpful in their takings opinions); Joseph L. Sax, *Takings and the Police Power*, 74 YALE L.J. 36, 67 (1964) (asserting that government should pay compensation when it acts in its own enterprise but not as a sovereign).

Jeremy Paul asserts that the search for a unified takings theory "appeals to our collective fear that the Court's current ad hoc balancing risks straying so far from 'the text and history of the Constitution [as to become] the antithesis of the rule of law.'" Jeremy Paul, *The Hidden Structure of Takings Law*, 64 S. CAL. L. REV. 1393, 1400 (1991) (alteration in original) (quoting Douglas W. Kmiec, *The Original Understanding of the Takings Clause Is Neither Weak nor Obtuse*, 88 COLUM. L. REV. 1630, 1631 n.6 (1988)).

taking.[18] Cases like *Dolan*, which require an exaction[19] from the land developer, are neither regulatory nor physical in nature. Courts and commentators, therefore, disagree about whether the *Dolan* standard applies to other types of takings claims.[20]

1. Physical Occupation

A physical taking occurs when a government entity intrudes and physically occupies a landowner's property.[21] The Supreme

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18. For a comprehensive discussion of the physical and regulatory takings doctrine, see DANIEL R. MANDELKER, LAND USE LAW 20-55 (2d ed. 1988 & Supp. 1992).

19. An exaction is the "contribution that a developer must make to a community in exchange for permission to develop." Nicholas V. Morosoff, Note, *"'Take' My Beach, Please!": Nollan v. California Coastal Commission and a Rational-Nexus Constitutional Analysis of Development Exactions*, 69 B.U. L. REV. 823, 848 (1989). Many types of exactions exist. One type of development exaction is a dedication of land for streets, sidewalks, utility lines, public parks, or schools. *Id.* Municipalities also have required developers to make improvements of nearby streets and highways. *Id.* at 849. If the developer has little land to dedicate, some municipalities require a monetary payment in lieu of dedication. *Id.* Similarly, large-scale capital expenditures required because of a proposed development have caused governments to impose "impact fees." *Id.* Finally, the newest form of exaction is called "linkage." It requires that a developer build a specific number of low-income units or contribute to the city's low-income housing fund in order to receive a permit to build in the downtown area. *Id.*

20. Several cases have held that *Dolan* does not apply outside of exaction cases. *See, e.g.*, International College of Surgeons v. City of Chicago, No. 91-C-1587, 1994 U.S. Dist. LEXIS 18989, at *63 (N.D. Ill. Dec. 30, 1994) (refusing to apply *Dolan* for the denial of building permits based on an ordinance to protect landmark buildings); Harris v. City of Wichita, 862 F. Supp. 287, 294 (D. Kan. 1994) (holding that *Dolan* was not applicable because the case at hand was a land use restriction case and did not require the plaintiffs to deed over a portion of their land); Parking Ass'n of Georgia v. City of Atlanta, 450 S.E.2d 200, 203 n.3 (Ga. 1994) (distinguishing the individualized determination in *Dolan* from the legislative determination of Atlanta's zoning ordinance), *cert. denied*, 115 S. Ct. 2268 (1995). *But see* Hensler v. City of Glendale, 876 P.2d 1043, 1048-49 (Cal. 1994) (discussing the *Dolan* standard in an inverse condemnation action, but dismissing the case on ripeness grounds), *cert. denied*, 115 S. Ct. 1176 (1995); Hanson Bros. Enter. v. Bd. of Supervisors, 35 Cal. Rptr. 2d 358, 365 (Cal. Ct. App. 1994) (Puglia, J., dissenting) (arguing that the current enhanced protection of private property encompassed in *Dolan* and *Nollan* would require compensation in a zoning case) *aff'd*, 889 P.2d 537 (1995); Parking Ass'n v. City of Atlanta, 450 S.E.2d 200, 204 (Ga. 1994) (Sears, J., dissenting) (disagreeing with the majority that *Dolan* does not apply to city zoning ordinance), *cert. denied*, 115 S. Ct. 2268 (1995); Peterman v. State, 521 N.W.2d 499, 511 (Mich. 1994) (holding that the *Dolan* standard was met when the state built a boat-launch ramp on its own property which eventually eroded away plaintiff's shoreline); Manocherian v. Lenox Hill Hosp., 643 N.E.2d 479, 483 (N.Y. 1994) (stating that "there is no basis . . . for concluding that the Supreme Court decided to apply different takings tests, dependent on whether the takings were purely regulatory or physical. . . . [T]he Supreme Court specifically referred to non-physical regulatory takings cases.") (citations omitted), *cert. denied*, 115 S. Ct. 1961 (1995).

21. MANDELKER, *supra* note 18, at 21.

Court, in *Loretto v. Teleprompter Manhattan CATV Corp.*,[22] held that a physical occupation is a per se taking. In *Loretto*, a New York statute entitled television cable companies to install their cable lines and boxes on apartment buildings without interference from landlords.[23] The cable companies were required only to pay a nominal one dollar fee unless the landowner could demonstrate special damages attributable to the taking.[24] The Court determined that a takings violation arose when there was a "permanent physical occupation authorized by government . . . without regard to the public interests that it may serve."[25] The Court found that every strand of the landowner's bundle of property rights was affected.[26] Regardless of the government interest involved, *Loretto* stands for the proposition that a physical invasion will always be a taking.

The Court defined the scope of a physical invasion when it decided *Yee v. City of Escondido*.[27] In *Yee*, husband and wife mobile park owners were required by state law to roll back rent charges to an earlier level and were forbidden to raise the rent without city approval.[28] The park owners argued that this was a physical invasion under *Loretto* because the mobile home tenants were permitted to live on the land indefinitely at very low rent.[29] The Supreme Court refused to apply *Loretto* because the park owners' land was not physically invaded. "The government effects a physical taking only where it *requires* the landowner to submit to the physical occupation of his land."[30] Taken in conjunction, *Loretto* and *Yee* illustrate the scope of one category of per se violations of the takings clause—physical takings.

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22. 458 U.S. 419 (1982); *see also* United States v. Causby, 328 U.S. 256, 265 n.10 (1946) (discussing a physical invasion of airspace).

23. *Loretto*, 458 U.S. at 423.

24. *Id.* at 423-24.

25. *Id.* at 426.

26. *Id.* at 435. The Supreme Court has considered a number of cases where one of the "strands" in the bundle of property rights was argued to have been destroyed. *See* PruneYard Shopping Ctr. v. Robins, 447 U.S. 74, 83 (1980) (limiting the "right to exclude strand" when it is not essential to the economic value of the property); Kaiser Aetna v. United States, 444 U.S. 164, 178 (1979) (finding that the right to exclude was significant enough to require compensation); Andrus v. Allard, 444 U.S. 51, 65-66 (1979) (holding that loss of future profits when there is no physical property restriction is an insufficient "strand" to constitute a taking).

27. 503 U.S. 519 (1992).

28. *Yee*, 503 U.S. at 524.

29. *Id.* at 525.

30. *Id.* at 527 (emphasis in original).

2. Regulatory Takings

Despite the clear per se rule of physical takings, Supreme Court jurisprudence in regulatory takings is marked by a number of different tests. In addition to a per se rule in regulatory taking cases, the Court has espoused numerous characterizations of regulatory takings standards. This section will first articulate the per se rule for regulatory takings and will subsequently discuss other standards the court has announced.

A regulatory taking automatically occurs when a regulation "denies all economically beneficial or productive use of land."[31] A regulatory taking is also a per se violation of the takings clause. *Lucas v. South .Carolina Coastal Council*[32] is a quintessential example of when a regulation fits the per se rule. In *Lucas*, the plaintiff bought two parcels of land intending to build single family homes similar to residences built on adjacent lots.[33] After the plaintiff purchased the lots, the state legislature enacted the Beachfront Management Act. This Act barred the landowner from building any habitable structure.[34] The lower courts determined that the plaintiff had lost all economically viable use of the land.[35] As a result, the Supreme Court created a categorical rule requiring a takings determination, regardless of whether the purpose of the regulation was to confer a benefit or prevent a harm.[36] When depriving the landowner of all economically viable use, the government may escape a takings claim if the interest the owner asserts was never originally a part of the owner's title.[37]

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31. Lucas v. South Carolina Coastal Council, 112 S. Ct. 2886, 2893 (1992).

32. 112 S. Ct. 2886 (1992).

33. *Lucas*, 112 S. Ct. at 2889.

34. *Id.* at 2889-90.

35. *Id.* at 2890.

36. *Id.* at 2998-99. Until *Lucas*, many courts applied a "harm-benefit theory" to regulatory takings. Under this theory, a land use regulation would be upheld if it prevents a harm to private landowners; however, courts would invalidate regulations that only confer a public benefit. MANDELKER, *supra* note 18, at 24. The Court in *Lucas* rejected the harm-benefit analysis, stating that "the distinction between 'harm-preventing' and 'benefit-conferring' regulations is often in the eye of the beholder. . . . Whether one or the other of the competing characterizations will come to one's lips in a particular case depends primarily upon one's evaluation of the worth of competing uses of real estate." *Lucas*, 112 S. Ct. at 2897-98.

For a comprehensive interpretation and modification of the harm-benefit theory, see Joseph L. Sax, *Takings, Private Property and Public Rights*, 81 YALE L.J. 149 (1971).

37. *Lucas*, 112 S. Ct. at 2899. The Court stated that background principles of state nuisance law would help courts determine whether a property right existed prior to the takings claim. *Id.* at 2900.

Even without a complete deprivation of economically viable use, however, courts analyze regulations and decide if they unconstitutionally take a landowner's property.[38] One early articulation of a test to determine whether a regulation is overreaching was in *Penn Central Transportation Co. v. New York City*.[39] Penn Central owned the Grand Central Station Terminal in New York City and wanted to build a high-rise office building above the Terminal.[40] The city had previously designated the Terminal a historic landmark and prohibited the plaintiffs from building.[41] The Court found that a taking had not occurred based on a balancing of three factors: (1) the character of the government action, (2) the extent the regulation interferes with "distinct investment-backed expectations," and (3) the economic impact of the regulation on the landowner.[42]

Notwithstanding the above three factor test, the Court espoused an alternative analysis in *Agins v. City of Tiburon*.[43] In *Agins*, the Court refused to find a taking when the city limited the number of residential dwellings a developer could construct on five acres of undeveloped land.[44] The Court explicated a two-part test to determine regulatory takings: (1) whether the regulation substantially advances a legitimate state interest or (2) whether the regulation denies the owner of all economically viable use of the proper-

38. Early in takings jurisprudence, the Fifth Amendment was thought to only apply to physical appropriations. *See* Mugler v. Kansas, 123 U.S. 623, 668-69 (1887) (holding that a statute that banned the production of alcohol did not amount to a taking of a beer manufacturer's property, despite the near worthlessness of the land). However, this view was later rejected when the Supreme Court stated that "[t]he general rule at least is, that while property may be regulated to a certain extent, if regulation goes too far it will be recognized as a taking." Pennsylvania Coal Co. v. Mahon, 260 U.S. 393, 415 (1922).

39. 438 U.S. 104 (1978).

40. *Penn Central*, 438 U.S. at 115-16.

41. *Id.* at 115, 117.

42. *Id.* at 124. The balancing of these three factors was part of the Court's "ad hoc, factual inquir[y]." *Id.* Justice Brennan explained that the character of a government action was more likely to result in a taking if there was a physical invasion, rather than if the action merely adjusted the "benefits and burdens of economic life to promote the common good." *Id.* Justice Brennan's discussion of investment backed expectations was brief, but he stated that plaintiffs could not prevail merely by showing that they were denied an opportunity to exploit a property interest that they previously believed was available. *Id.* at 130. Finally, the Court noted that governments were allowed to have some economic impact on a landowner: "government may execute laws or programs that adversely affect recognized economic values." *Id.* at 124.

43. 447 U.S. 255 (1980).

44. *Agins*, 447 U.S. at 257, 259.

ty.[45] The existence of these two alternative tests makes it clear that there is a substantial gray area between the two per se rules.[46]

B. *Development of Exaction Cases*

Government use of development exactions is not a recent phenomenon. In the early part of the century, subdividers were not required to make any physical improvements on property they developed.[47] As a result, subdividers created many more land plots than were needed and some were never completely developed. In response to this problem of overdevelopment, local governments levied "special assessments" on individual lot owners in order to finance subdivision improvements.[48] This proved unworkable during the Depression because many individuals defaulted on their special assessment payments. As a result, special assessment bond holders suffered losses and the bonds became unmarketable.[49] These problems resulted in more stringent land regulations and subdividers were required to install necessary improvements at their own expense.[50]

Exactions became more popular as local governments realized they could require subdividers to dedicate streets and similar improvements in return for the privilege of recording their plats.[51] Although some argued that such exactions violated the takings clause, the exactions became accepted over time as being "proper conditions on the exercise of the regulatory power."[52] Fees in lieu of dedications also became popular and they, along with dedications and exactions, were expansively imposed on rezoning applications, variances, conditional use permits, and even building per-

45. *Id.* at 260.

46. In other words, the cases that fall between the two per se rules have no clear takings test governing them. Most cases fall between per se physical takings and regulatory takings which deny the landowner all economically viable use of the land.

47. DONALD G. HAGMAN, PUBLIC PLANNING AND CONTROL OF URBAN AND LAND DEVELOPMENT 903 (2d ed. 1980). An "improvement" is "[a] valuable addition made to property (usually real estate) . . . intended to enhance its value, beauty or utility or to adapt it for new or further purposes." BLACK'S LAW DICTIONARY 757 (6th ed. 1990).

48. HAGMAN, *supra* note 47, at 903. A "special assessment" is "[a] tax, intended to offset cost of local improvements such as sewer, water, and streets, which is selectively imposed upon beneficiaries." BLACK'S LAW DICTIONARY, *supra* note 47, at 116.

49. HAGMAN, *supra* note 47, at 903.

50. *Id.*

51. *Id.* at 904.

52. *Id.*

mits.[53]

When the police power is used as a justification, however, a nexus is usually required between the regulation and the regulated property.[54] The Court tried to clarify this relationship in preceding exaction cases and addresses it once again in *Dolan*.

1. The Unanswered Question: *Nollan v. California Coastal Commission*

Nollan v. California Coastal Commission[55] is a development exaction case similar to *Dolan*. It established the first prong of the test used in *Dolan*. The *Nollan* Court did not go further than the first prong, however, because it found that the prong was not satisfied. Therefore, the exaction was a taking.

The Nollans sought a permit to tear down their bungalow and build a three bedroom house.[56] The California Coastal Commission conditioned approval of the permit on the Nollans granting an easement across their beachfront property for the use of the general public.[57] The Commission reasoned that the view of the beach would be blocked by a "'wall' of residential structures," presenting a psychological barrier to people using the full extent of the beach and burdening the public's ability to traverse along the shorefront.[58]

The Court found that the easement requirement was an unconstitutional taking. It held that for a permit condition to avoid a takings claim, it must (1) substantially advance a legitimate government interest and (2) contain an "essential nexus" between the land use regulation and the state's land use goals.[59] The Court recog-

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53. *Id.* at 905. For example, a development project might be too small to require that the developer dedicate land to the city. A series of these small development projects, however, could create a need for more open space or more schools. As a result, the city may require the developer to contribute a proportional amount of money to cover the impact of his or her project. Morosoff, *supra* note 19, at 849.

54. In addition to takings challenges, landowners have also attacked the validity of development exactions under the substantive component of the due process clause. Under this standard, "the exaction must be reasonably related to some legitimate governmental purpose and must not unduly oppress the regulated party." Morosoff, *supra* note 19, at 850.

55. 483 U.S. 825 (1987).

56. *Nollan*, 483 U.S. at 828.

57. *Id.* The easement covered the portion of their property bounded by the mean high tide line and the seawall.

58. *Id.* at 828-29.

59. *Id.* at 834, 837.

nized that the state could legitimately use its police power to impose a concession of property rights by a landowner.[60] However, it found that the state's goals of preventing a psychological barrier were not furthered by allowing the public to cross the plaintiff's property. Therefore, no essential nexus was established.[61] The Court did not go further to address the amount of connection required between the regulation and the actual impact of the proposed development.[62]

2. The Court's Answer: *Dolan v. City of Tigard*

The Supreme Court used *Dolan v. City of Tigard* to establish the second prong of the exaction analysis. The plaintiff, Florence Dolan, wanted to expand her plumbing store but the city of Tigard would not grant a permit unless she dedicated all property lying within a 100-year floodplain for the improvement of a storm drainage system. The City also required an additional fifteen feet of property adjacent to the floodplain as a pathway for pedestrians and bicycles.[63] Dolan sought a variance, but the Commission denied it after determining that customers and employees of the future site could use the pathway for recreational and transportation needs.[64] In addition, the Commission asserted that the pathway, as an alternative means of transportation, might reduce some of the traffic congestion created by the proposed expansion. It also found that the increased storm water flow created by the expansion was reasonably related to the flood plain dedication.[65]

The Supreme Court stated that even though the *Nollan* part of the test was met,[66] there were additional requirements to avoid a takings claim. In the case of a takings claim that does not deprive a landowner of all economically viable use, a court must engage in two inquiries: (1) whether an essential nexus exists between a legitimate state interest and the permit condition[67] and (2) whether

60. *Id.* at 836.

61. *Nollan*, 483 U.S. at 838-39.

62. The Court in *Dolan* recognized that the *Nollan* court did not address this question because "the connection did not meet even the loosest standard." Dolan v. City of Tigard, 114 S. Ct. 2309, 2317 (1994).

63. *Id.* at 2314.

64. *Id.*

65. *Id.* at 2315.

66. *See infra* notes 67-68 and accompanying text.

67. *Dolan*, 114 S. Ct. at 2317. This was the prong established by *Nollan*. Nollan v. California Coastal Comm'n, 483 U.S. 825, 837 (1987).

there is a "rough proportionality" or "reasonable relationship" between the interest being asserted and the actual impact of the proposed property use.[68] The Court stated that "[n]o precise mathematical calculation is required, but the city must make some effort to quantify its findings in support of the dedication . . . beyond [a] conclusory statement."[69]

Applying the *Nollan* prong, the Court found that preventing flooding and reducing traffic congestion were legitimate interests.[70] The Court also found an essential nexus between preventing floods and limiting development in the 100-year floodplain, as well as reducing traffic congestion and providing an alternative means of transportation.[71]

However, the Court stated that the rough proportionality test was not met. When discussing the floodway easement and the new building, the Court concluded that there was no rough proportionality because the Community Development Code already required that Dolan maintain fifteen percent of her property as open space; the floodplain almost satisfied that requirement. The city, however, wanted additional property along the creek for its greenway system.[72] The Court could not see how a public greenway, as opposed to a private one, better served the interest of flood control. The Court was concerned that Dolan lost her ability to exclude others, "one of the most essential sticks in the bundle of rights that are commonly characterized as property."[73]

When addressing the pathway and new building issues, the Court found that even though the city estimated that the proposed expansion of the store would create about 435 additional trips per day, the city found merely that the pathway *could* offset some of the congestion, not that it *did* in fact so offset.[74] Apparently, the Court felt that the city had not adequately quantified its findings to

68. *Dolan*, 114 S. Ct. at 2318-19.

69. *Id.* at 2322.

70. *Id.* at 2317-18. The Court previously defined the scope of legitimate interests to include ordinances and zoning laws that bear a substantial relation to public welfare and inflict no irreparable injury on the landowner. Agins v. City of Tiburon, 447 U.S. 255, 261 (1980).

71. *Dolan*, 114 S. Ct. at 2318. The Court recognized that if Dolan doubled the size of her store and paved her gravel parking lot, the amount of impervious surface would increase, resulting in more storm water run-off into Fanno Creek. *Id.*

72. *Id.* at 2320. The city not only wanted to prevent the plaintiff from building on the floodplain, it also wanted the property along the nearby creek for its greenway system. *Id.*

73. *Id.* at 2320 (quoting Kaiser Aetna v. United States, 444 U.S. 164, 176 (1979)).

74. *Id.* at 2321-22.

justify the impact on the plaintiff's land.[75]

The question that remains after *Dolan* is what type of quantification is necessary to satisfy the rough proportionality test. It appears that the Court requires an impact assessment on a landowner's property. If the regulation or exaction pertains to an environmental concern as in *Dolan*,[76] the courts might require the use of methodologies and techniques similar to those required in generating an environmental impact statement under NEPA and its state counterparts.[77] The difference is that the Court is doing so in reverse. Instead of requiring the government agency to show the development project's impact in order to obtain its permit, the Court is requiring local governments to conduct an assessment justifying their denial of a particular land use or imposition of a conditional permit.

Next, this Note analyzes the type of assessment courts will require after *Dolan*. Cases cited with approval by *Dolan* are one source of guidance in trying to understand the level of quantification necessary. Another basis for comparison is the standard of review courts have used when plaintiffs attack the sufficiency of methodologies in environmental impact assessments under NEPA or the CAA. In addition, this Note will present suggestions for complying with the new *Dolan* standard.

III. ANALYSIS

A. *Pre-Dolan Cases*

The Court in *Dolan* cited a number of state cases that it claims used a rough proportionality standard. Although some cases referenced did not specify the required quantification, a few cases focused on the data generated to support their findings.[78] What the

75. Justice Steven stated that the court had "stumbled badly" by shifting the burden of proof to the government, requiring a demonstration of the amount of impairment a regulation imposes on the plaintiff. *Id.* at 2330 (Stevens, J., dissenting). Stevens stated that cities traditionally have had a presumption of constitutionality concerning land use regulations and that the majority's decision resurrected substantive due process analysis. *Id.* at 2326-27 (Stevens, J., dissenting).

76. Environmental concerns include more than ecological problems. *See infra* notes 111-15 and accompanying text.

77. For a detailed explanation of environmental impact statements, methodologies, techniques, and environmental legislation, see *infra* part III.B.

78. One case cited by the Supreme Court that does not give much guidance in the amount of quantification necessary is *Call v. City of West Jordan*, where a developer was required either to dedicate seven percent of a proposed subdivision to the public or to

cases *do* indicate is (1) a complete lack of evidence is insufficient to overcome the government's burden of proof,[79] (2) some quantitative showing of past development trends *might* be adequate,[80] and (3) quantification regarding size, economic impact, and amount of land consumed could be adequate as far as land dedication cases are concerned.[81]

The problem remains, however, that there is much that the preceding cases *do not* indicate. For instance, the cases do not indicate how much deference governments' findings will be given when landowners challenge governments' methodologies or techniques.[82] Also, the cases are unclear concerning whether governments must consider alternatives to the projects or mitigate possible adverse impacts of the projects.[83]

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donate its equivalent in cash value. Call v. City of West Jordan, 606 P.2d 217, 218 (Utah 1979). The court found that the dedication had a reasonable relationship to the needs created by the subdivision, even though the dedication might not solely benefit that particular subdivision. *Id.* at 220. No quantification by the city was cited and the case was resolved on the basis of the city's general police power in land use regulation. *See id.* at 219 (citing to the city government's promotion of "health, safety, morals, and general welfare").

Similarly, in *Collis v. City of Bloomington*, the city required a 10% dedication of the proposed project's land or its equivalent in cash to be used for public parks and playgrounds. Collis v. City of Bloomington, 246 N.W.2d 19, 21 (Minn. 1976). The landowner argued that using a specific percentage across the board did not establish a reasonable relationship because "there is no showing that the resultant acreage is at all related to the . . . needs generated by the subdivision." *Id.* at 27 (quoting Ira M. Heyman & Thomas K. Gilhool, *The Constitutionality of Imposing Increased Community Costs on New Suburban Residents Through Subdivision Exactions*, 73 YALE L.J. 1119, 1142 (1964)). Since different size subdivisions bring different amounts of people to the city, a developer might be forced to pay a disproportionate share of the park and recreation needs she or he creates. *Id.* The court resolved the issue by focusing on the fact that the 10% figure could be rebutted by the developer and was subject to judicial review. *Id.* The court did not focus on any quantitative data presented by the city and therefore provides little guidance in this respect.

79. Simpson v. City of North Platte, 292 N.W.2d 297 (Neb. 1980).

80. *See* Jordan v. Village of Menomonee Falls, 137 N.W.2d 442, 447-48 (Wis. 1965) (justifying land dedication requirements of subdividers on a showing by the municipality that it was those subdividers, who had brought the people into the community, that made the dedication necessary). It is unclear, however, if such a showing is sufficient under *Dolan* if the quantification does not reflect the plaintiff's actual project. *See infra* notes 91-100 and accompanying text.

81. City of College Station v. Turtle Rock Corp., 680 S.W.2d 802 (Tex. 1984).

82. Will governments be judged by an "arbitrary and capricious" standard or a "hard look" standard similar to that imposed on administrative agencies' environmental impact assessments in NEPA litigation? Or will they be held to a different standard, either more or less deferential? *See infra* part III.B.2.

83. *Cf.* National Environmental Policy Act of 1969, 42 U.S.C. § 4332 (1988) (requiring the consideration of alternatives and mitigation of adverse impacts). In addition, the

Simpson v. City of North Platte,[84] although not cited in *Dolan*, gives some insight to what definitively will *not* meet a rough proportionality test. The *Simpson* court found an insufficient relationship between the city's comprehensive plan to construct streets and its requirement that the developer dedicate land to build a proposed street.[85] The plaintiff landowners had applied for a building permit to expand their parking lot.[86] The permit was refused on the grounds that the developer had not dedicated a forty foot right-of-way for the extension of an existing street.[87] The court noted that there was no evidence that the city was actually going to go through with the project, even though the city's comprehensive plan stated that the street in question would be extended.[88] The city also did not present evidence of what the project involved, how the landowner's project would produce additional traffic sufficient to justify the dedication, or why no other adjacent landowner would have to dedicate land unless she or he wanted to develop.[89] This case, therefore, supports *Dolan's* requirement that "the city must make some effort to quantify its findings in support of the dedication . . . beyond [a] conclusory statement."[90] The city provided no hard data to support the dedication requirement; therefore, based upon this lack of evidence, the court found a taking had occurred.

Jordan v. Village of Menomonee Falls[91] illustrates a court's analysis when past development trends are used for decisional support. In *Jordan*, a city required the dedication of land for school, park, and recreation needs.[92] The court upheld the city's ordinance as constitutional.[93] To support their conclusion, the

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courts give no indication whether the government can or should impose the burden of quantifying the impact on developers before deciding whether to approve a particular project. Although the following cases provide some insight, additional guidance is necessary for government entities to have adequate information about complying with the new test prong.

84. 292 N.W.2d 297 (Neb. 1980).

85. *Simpson*, 292 N.W.2d at 301.

86. *Id.* at 299.

87. *Id.* at 299-300.

88. *Id.* at 301. The city acquired no real estate for the expansion of the street and gave no indication when any real estate might be acquired. *Id.*

89. *Id.*

90. *Dolan*, 114 S. Ct. at 2322.

91. 137 N.W.2d 442 (Wis. 1965).

92. *Jordan*, 137 N.W.2d at 445.

93. *See id.* at 450 (finding a reasonable relationship between the zoning ordinance and the city's police power).

court relied on evidence introduced by the city.[94] The city presented a planning expert who testified that in order to have a good environment for human habitation, municipalities need a minimum of 3000 square feet for park and school purposes.[95] The city also provided statistics that showed the urban impact of the city's proximity to Milwaukee, resulting in (1) forty-one new plats with 628 lots being approved between 1959 and 1963,[96] (2) an increase in school population between 1958 and 1963,[97] and (3) an increase in village population from 6262 in 1950 to 25,000 in 1964.[98] The court concluded that this statistical showing was sufficient to justify the dedication requirement.[99]

This case gives some insight into the type of affirmative evidence necessary to support governmental regulations. This case, however, would not meet *Dolan's* requirements on its face. The city only illustrated past increases in the city's growth from other sources; it did not quantify findings which applied to the particular developer at bar.

For instance, the city did not predict that Jordan would bring in *X* number of residents and increase the school population by *Y*, so that *Z* square feet would be required to maintain an appropriate amount of school and park land. Viewed in this way, *Jordan* is not very helpful to states or municipalities, since *Dolan* seems to demand data which applies to the particular plaintiff bringing the action.[100]

The court in *City of College Station v. Turtle Rock Corp.*[101] gives some indication of what a court might consider sufficient evidence to establish the requisite reasonable relationship or rough proportionality.[102] The court found that, as a facial challenge, the

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94. The court reasoned that the required dedication could be upheld as a valid exercise of police power if the increase in population from the development required the city to provide more land for schools, parks, and playgrounds. *Id.* at 448.

95. *Id.* at 446.

96. *Id.* at 448. As a result of this expansion, five developers dedicated land. Four of the dedications were used for parks and one was used for a public school. The village also bought additional park locations. *Id.*

97. *Id.* at 448.

98. *Id.*

99. *Id.* at 448-49.

100. The Court in *Dolan* recognized that a "general agreement exists among the courts 'that the dedication should have some reasonable relationship to the needs created *by the [development].*'" *Dolan*, 114 S. Ct. at 2319 (quoting Call v. City of West Jordan, 606 P.2d 217, 220 (Utah 1979)) (emphasis added).

101. 680 S.W.2d 802 (Tex. 1984).

102. *College Station*, 680 S.W.2d at 805.

city's ordinance mandating that a developer dedicate land for city park purposes was constitutional.[103] The court noted that the ordinance only affects a developer if he or she chooses to develop; "the ordinance does not permit the city to initiate action that compels the dedication of park land."[104] The court remanded the case, however, to see if there was an applied taking.[105] Specifically, the court wanted to know whether there was a reasonable connection between increased population from development and increased park and recreation needs.[106] The court requested evidence of "the size of the lots in a subdivision, the economic impact on the subdivision, and the amount of open land consumed by the development."[107] This case appears to most closely comport with the *Dolan* standard because it is asking for quantification that applies to the specific landowner in the litigation. However, it is narrow in scope and only marginally useful for future cases.

The cases relied on by the Court in *Dolan* provide only limited assistance in determining what level of quantification is necessary to survive a takings challenge. The next step is to analyze other areas in which governments are required to support their decision-making through quantification.

> [I]n order for [an] ordinance to be a valid exercise of the city's police power . . . there are two related requirements. First, the regulation must be adopted to accomplish a legitimate goal; it must be "substantially related" to the health, safety, or general welfare of the people. Second, the regulation must be reasonable; it cannot be arbitrary.

Id. (citations omitted).

103. *Id.* at 806. The Supreme Court has made a distinction between "facial" and "applied" takings challenges. A plaintiff brings a facial challenge when the mere enactment of the statute in question constitutes a taking of property. Stephanie E. Marshall, Comment, *Refining the Constitutional Limits on Governmental Regulation of Private Property*, 30 WILLAMETTE L. REV. 817, 823 (1994). The Court has held that the test in a facial challenge is whether the statute denies the plaintiff of all economically viable uses of his or her land; "[plaintiffs] thus face an uphill battle in making a facial attack." Keystone Bituminous Coal Ass'n v. DeBenedictis, 480 U.S. 470, 495 (1987). A plaintiff brings an applied challenge when the application of the statute to a specific piece of property results in an unconstitutional taking. Marshall, *supra* at 823.

104. *College Station*, 680 S.W.2d at 806.

105. *Id.* Unlike the later opinion in *Dolan*, the court stated that the burden rested on the plaintiff to establish that there was no reasonable connection. *Id.* at 806-07.

106. *Id.* at 806.

107. *Id.* at 807.

B. *Comparison with Traditional Environmental Assessments*

Since *Dolan* appears to require an environmental impact assessment, examining the area of law that pioneered environmental impact assessments is useful. Predicting the impact that a proposal will have on a discrete group or area is a task with which government entities are familiar. In 1970, Congress enacted NEPA.[108] The legislation was created to force the federal government to consider the environmental impact before beginning a proposed project.[109] To accomplish this, every federal agency must prepare an Environmental Impact Statement (EIS) for any major action which could have a significant impact on the environment.[110] Although the term "environment" is not defined by NEPA, section 102 of the Act indicates that the term includes physical,[111] social,[112] cultural, economic,[113] and aesthetic[114] dimensions.[115]

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108. *See* 42 U.S.C. §§ 4321-4370 (1988).

109. Marsh v. Oregon Natural Resources Council, 490 U.S. 360, 371 (1989) ("Preparation of [EIS's] . . . is at times necessary to satisfy [NEPA's] 'action forcing' purpose.").

110. "Environmental Impact Statement" is the term NEPA uses. However, scientists often refer to these statements as "environmental impact assessments." The most complete definition of an "environmental impact assessment" is the "process for identifying the likely consequences for the biogeophysical environment and for man's health and welfare of implementing particular activities and for conveying this information, at a stage when it can materially affect their decision, to those responsible for sanctioning the proposals." Peter Wathern, *An Introductory Guide to EIA, in* ENVIRONMENTAL IMPACT ASSESSMENT: THEORY AND PRACTICE 6 (Peter Wathern ed., 1988). In simpler terms, it means ensuring the decision makers understand the consequences of their actions. *Id.*

An "impact" is defined as the "change in an environmental parameter, over a specified period and within a defined area, resulting from a particular activity compared with the situation which would have occurred had the activity not been initiated." *Id.* at 7.

111. This includes both the natural and constructed physical environment. For example, not only do the land, climate, vegetation, and wildlife make up the physical environment, but so do surrounding land uses (single family homes versus industrial areas) and public services (water supply, sewage, etc.). John G. Rau, *Concepts of Environmental Impact Analysis, in* ENVIRONMENTAL IMPACT ANALYSIS HANDBOOK 1-24 to 1-25 (John G. Rau & David C. Wooton eds., 1980).

112. For example, this would include community facilities such as schools and parks or socioeconomic and racial characteristics of the community. *Id.* at 1-25.

113. This would include unemployment levels and the economic base of the area. *Id.*

114. This would include historic sites or scenic areas. *Id.*

115. Section 102 states that the federal government must,

> (A) utilize a systematic, *interdisciplinary approach* which will ensure the integrated use of the *natural and social sciences* and the environmental design arts in planning and in decisionmaking which may have an impact on man's environment;
>
> (B) identify and develop methods and procedures . . . which will insure that presently unquantified environmental amenities and values may be given appro-

Section 102(2)(C)(i) of NEPA describes what an EIS should include. It also mandates that all federal agencies must,

> (C) include in every recommendation or report on proposals for legislation and other major Federal actions significantly affecting the quality of the human environment, a detailed statement by the responsible official on—
>
> (i) the environmental impact of the proposed action,
>
> (ii) any adverse environmental effects which cannot be avoided should the proposal be implemented,
>
> (iii) alternatives to the proposed action,
>
> (iv) the relationship between local short-term uses of man's environment and maintenance and enhancement of long-term productivity, and
>
> (v) any irreversible or irretrievable commitments of resources which would be involved in the proposed action should it be implemented.[116]

Since NEPA only applies to projects by the federal government, it was soon followed by numerous state schemes known as "little NEPAs."[117] Often the state environmental policy acts (SEPA's) place harsher requirements on the agencies doing an EIS than does the federal standard.[118]

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priate consideration in decisionmaking *along with economic and technical considerations.*

42 U.S.C. § 4332 (1988) (emphasis added).

116. *Id.* For more specific requirements, see Council on Environmental Quality, 40 C.F.R. §§ 1500-1517 (1994).

Many critics of NEPA worried that the EIS was not taken seriously by the federal agencies and that the EIS was merely something the agency would add on after they decided to do a project. Some commentators now argue, however, that the EIS requirement has contributed greatly to reducing adverse impacts before an agency reaches the "authorization phase." Rau, *supra* note 111, at 6.

117. For comprehensive treatment of the state versions of NEPA, see FRANK P. GRAD, 2 TREATISE ON ENVIRONMENTAL LAW § 9.08, at 9-315 (1994).

118. *See* California Environmental Quality Act, CAL. PUB. RES. CODE §§ 21000-21177 (West 1986 & Supp. 1995) (requiring that long-term protection of the environment be the "guiding criterion" in public decisions); Hawaii Environmental Quality Law, HAW. REV. STAT. §§ 341-44 (1985 & Supp. 1992) (requiring any factors above and beyond NEPA that the director may by rule prescribe); MD. CODE ANN. NAT. RES. §§ 1-301 to 1-305 (1989) (making a healthful environment a "fundamental and inalienable right"); Minnesota Environmental Protection Act, MINN. STAT. ANN. §§ 116.01-116.99 (West 1987 & Supp. 1995) (requiring additional duties such as encouraging education, reducing solid wastes, avoiding unnecessary resource depletion, and minimizing noise); MONT. CODE ANN. §§ 75-1-101 to 75-20-1205 (1994) (entitling its citizens to a healthful environment); N.Y. ENVTL. CONSERV. LAW §§ 8-0101 to 8-0117 (McKinney 1984 & Supp. 1995) (modeling act after California's Environmental Quality Act); WASH. REV. CODE ANN. §§ 43.21C.010

EISs typically measure two types of environmental effects, primary and secondary impacts. Primary impacts are environmental effects that can be directly traced to the proposed action.[119] For example, a primary impact of a dam is its prevention of the upward movement of migratory fish.[120] Possible secondary impacts are "indirect or induced changes [which] typically include the associated investments and changed patterns of social and economic activities likely to be stimulated or induced by the proposed action."[121] Secondary impacts of the dam are lower fish population, altered stream flow, turbulence, and increased oxygen tension. Ultimately, the survival of the species in the river would be affected.[122]

There are many different ways to measure the primary and secondary impacts of a project. Since many of the EISs address complicated technical and scientific issues, a number of techniques and methodologies have been developed to enable agencies to accurately assess the environmental, economic, or sociological impact on any given area. Readers should distinguish between "techniques" and "methodologies" used in EISs. Techniques are scientific measurements used to predict specific impacts on the environment: for example, determining noise levels or the amount of traffic flow.[123] Methodologies, on the other hand, collate, arrange, present, and sometimes interpret data according to organizational principles.[124]

Even though these techniques and methodologies are generally reliable, methodologies in particular have been challenged by disgruntled landowners on the basis of inadequate scientific support or improper application to a particular area.[125] Plaintiffs have

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to 43.21C.910 (West 1983 & Supp. 1995) (making a healthful environment a "fundamental and inalienable right").

119. Rau, *supra* note 111, at 1-26.

120. Wathern, *supra* note 110, at 8.

121. Rau, *supra* note 111, at 1-26.

122. Wathern, *supra* note 110, at 8.

123. R. Bisset & P. Tomlinson, *Development in EIA Methods, in* ENVIRONMENTAL IMPACT ASSESSMENT: THEORY AND PRACTICE 47 (Peter Wathern ed. 1988).

124. *Id.* Because some projects require many different types of measurement, more than one methodology may be necessary. *Id.* For example, a methodology that could measure and communicate the impacts on plant and wildlife may not be the best methodology to communicate the social and economic impacts of the same project.

125. Wathern, *supra* note 110, at 4. Soon after NEPA was enacted, environmental groups used the court system to force federal administrative agencies to do EISs. As a result, an abundance of literature surfaced addressing the techniques and methodologies that could be used in preparing an EIS. *Id.* Since there is no relevant litigation concern-

challenged methodologies under both NEPA and the CAA.[126]

If state and local governments use similar NEPA and CAA techniques and methodologies to meet the quantification required in *Dolan*, plaintiffs could challenge the technique or methodology. Plaintiffs could argue that the requisite proportionality is not met. Although only a small amount of litigation over the adequacy of the methodologies has occurred, there are cases in which courts have held a methodology inadequate.[127] Some of the methodologies implemented are the checklist, matrix, network, overlay, and modeling methods.[128]

1. Common Methodologies

Many of the methodologies commonly used in impact assessments could be very helpful to governments when they try to quantify their decision-making rationales. The methodologies contain many inherent weaknesses, however, which could subject them to challenge by plaintiffs seeking just compensation. Perhaps the most common method used in impact assessments is the checklist method.[129] The checklist method consists of a two-way chart that lists "impact areas" that may be affected by a project.[130] The alternatives of "adverse effect," "no effect," and "beneficial effect" are listed on the horizontal axis and conditions and factors that may be affected by the project are on the vertical axis.[131] The data is then classified as either "beneficial," "adverse," or "no effect."[132] An advantage of this method to governments trying to prove the requisite rough proportionality is that it presents a broad assortment of considerations in a simple format.[133] Because it is so simple, it is easy for the courts and landowners to understand. This makes it harder for potential plaintiffs to fight against obvious impacts of their property when trying to disprove the rough pro-

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ing techniques and the techniques significantly vary, they will not be discussed in the following sections.

126. When challenging a methodology under NEPA, plaintiffs use § 102(2)(C)(i). Aside from NEPA, plaintiffs have also challenged the sufficiency of methodologies used by the EPA in trying to promulgate emissions standards as required by § 110 of the CAA. *See infra* notes 160-64.

127. *See infra* notes 194-201 and accompanying text.

128. DANIEL R. MANDELKER, NEPA LAW AND LITIGATION 10-4 (2d ed. 1992).

129. *Id.* at 10-6.

130. *Id.*

131. *Id.*

132. *Id.* at 10-7. For an illustration of the checklist method, see *id.* at 10-8.

133. MANDELKER, *supra* note 128, at 10-6 to 10-7.

portionality.

There are disadvantages to governments using this method. It is considered a qualitative analysis, not quantitative.[134] Plaintiffs could argue that the checklist method is in violation of *Dolan's* mandate that the government's findings be quantified.[135] By classifying environmental impacts as either beneficial or adverse, without any supporting scientific quantification, plaintiffs could argue that the government is doing as poor a job as the city of Tigard did in *Dolan* when it said that the bicycle pathway "could" offset some of the traffic.[136] In addition, this method has been criticized because it must be very exhaustive to ensure that no serious impact is overlooked.[137] Landowner plaintiffs could use this criticism to argue that the method does not truly reflect the actual impact of their proposed property use.

Another methodology used in impact assessments is the matrix method. Like the checklist method, the matrix method uses a two-way comparison.[138] It places project components on a horizontal axis and conditions or factors to be analyzed on the vertical axis.[139] The analyst chooses two numbers between one and ten: one number indicates the magnitude of the impact and the other indicates its importance.[140] This method could be useful to governments because it can reveal that particular impacts result from the interaction between the proposed development and the environment.[141] In this way, the government can claim that it has met

134. *Id.* at 10-7. Qualitative analysis differs from quantitative analysis because it is more descriptive than comparative; it does not place a number judgment on an impact. For example, the checklist method uses the terms "beneficial" and "adverse" to describe an impact, whereas a quantified analysis would rank the adverseness of an impact on a numerical scale, such as from one to 10. *See id.*

135. The *Dolan* court stated that "the city must make some effort to quantify its findings in support of the dedication . . . beyond [a] conclusory statement. . . ." *Dolan v. City of Tigard*, 114 S. Ct. 2309, 2322 (1994).

136. *Id.* For an argument that qualitative standards are just as useful as quantitative standards in analyzing takings cases, see Robert J. Blackwell, Comment, *Overlay Zoning, Performance Standards, and Environmental Protection After* Nollan, 16 B.C. ENVTL. AFF. L. REV. 615 (1989).

137. Wathern, *supra* note 110, at 11.

138. MANDELKER, *supra* note 128, at 10-9.

139. *Id.*

140. *Id.* For an illustration of the matrix method, see *id.* at 10-11.

141. Wathern, *supra* note 110, at 13.

the rough proportionality standard of *Dolan*.[142]

On the other hand, critics have accused this method of being very subjective and easy to manipulate.[143] Another weakness is that neither the uncertainty nor the variability of impacts are accurately reflected.[144] Plaintiffs can argue that this weakness fails to meet *Dolan's* rough proportionality standard because the impacts of plaintiffs' project are uncertain. Commentators have also criticized matrices for producing biased assessments or double counting of impacts in the event that an inadequate list of factors is selected and analyzed.[145] Plaintiffs can use this to their advantage, asserting that the government inadequately quantified its findings under *Dolan*.

A third methodology commonly used in impact assessments is the network method. This method expands on the matrix method, analyzing in terms of cause, condition, and effect.[146] The network method is usually shown in tree form and is generally best suited for single project assessments.[147] The main advantage of this methodology is that it identifies cumulative and indirect effects;[148] therefore, potential plaintiffs will have a weaker argument that the requisite rough proportionality is not present. A disadvantage, however, is that this method is characterized as a qualitative summary and, like the checklist method, plaintiffs could argue that it does not satisfy the quantitative mandate of *Dolan*.[149] It also requires a

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142. In other words, the government has established a rough proportionality between the legislative interest asserted and the actual impact of the plaintiff's proposed property use. *Dolan*, 114 S. Ct. at 2319.

143. MANDELKER, *supra* note 128, at 10-9. Commentators have argued that "subjectivity . . . is hidden within a spurious objectivity" because the impacts assessed are chosen by a small group of decision makers or experts. Bisset & Tomlinson, *supra* note 123, at 53. They can manipulate the assessment form to measure what impacts they consider important and hide those that do not achieve their desired goals. *Id.*

144. MANDELKER, *supra* note 128, at 10-9. "The matrix cannot indicate uncertainty resulting from inadequate data or an inappropriate rating system. 'Similarly, there is no way of indicating environmental variability, including the possibility of extremes that would present unacceptable hazards if they did occur, nor are the associated probabilities indicated.'" *Id.* at 10-9 to 10-10. (quoting ENVIRONMENTAL IMPACT ASSESSMENT: PRINCIPLES AND PROCEDURES 42 (Munn ed., 1979)).

145. MANDELKER, *supra* note 128, at 10-9.

146. *Id.* at 10-12.

147. *Id.* This method is best suited for single projects because it only identifies potential impacts and not the conditions that characterize the project location, making the display too extensive for a larger region. *Id.* For an illustration of the network method, see *id.* at 10-14.

148. *Id.*

149. *See supra* notes 134-36 and accompanying text.

considerable amount of data that may be too complex to be useful, does not distinguish impacts of low probability but high potential damage,[150] and does not link environmental consequences to environmental conditions.[151] This gives potential plaintiffs ample room to challenge the methodology by maintaining that the existence of a rough proportionality cannot be proven.

A fourth method used for impact assessments is overlays. This method is especially useful for large regional projects. Originally, decision makers used a map that showed each factor's impact on a transparency. All of the transparencies were overlaid to show the total impact.[152] Today, many agencies use a computerized approach called the Geographical Information System (GIS).[153] This approach to overlaying is much faster, easier, and less expensive.[154] Overlaying is good for satisfying the *Dolan* test because it provides a quantitative analysis. It synthesizes the data and shows spatial relationships well.[155]

However, some problems confront governments using overlays. The method depends heavily on cartographic skill for its accuracy and effectiveness.[156] Also, when using a computer program, the possibility of technical error always exists.[157] Both of these criticisms give plaintiffs latitude to challenge the effectiveness of the government's quantification.

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150. In other words, the methodology does not differentiate among environmental impacts that have a low chance of occurring, but that would be devastating if they did, from impacts that have a high chance of occurring, but would only have a minor impact.

151. MANDELKER, *supra* note 128, at 10-12 to 10-13.

152. *Id.* at 10-15. For an illustration of how overlays work, consider a project where the decision maker analyzes ecological sites, historic sites, noise impacts, and visual impacts to decide whether the project should be implemented. The decision maker produces four transparencies of the area. Those sections affected by each of the four factors are colored, and the transparencies are overlaid to show the composite impact on the area. *See* Wathern, *supra* note 110, at 15 (providing a diagram of overlays).

153. MANDELKER, *supra* note 128, at 10-16. The GIS system uses computer programming to do the same aggregation process as overlay transparencies and searches for areas with the fewest environmental limitations. *Id.*

154. *Id.* In addition, using transparency overlays limits the number of impacts a decision maker can consider to approximately 10. In the computerized analysis, the factors considered are quantitatively scored to a reference grid. They can then be weighted as to significance when they are aggregated, giving the computerized method much more flexibility. J.B. Shopley & R.F. Fuggle, *A Comprehensive Review of Current Environmental Impact Assessment Methods and Techniques*, 18 J. ENVTL. MGMT. 25, 41 (1984).

155. MANDELKER, *supra* note 128, at 10-16.

156. Shopley & Fuggle, *supra* note 154, at 41. Cartography is the "art or work of making maps or charts." WEBSTER'S NEW WORLD DICTIONARY, 218 (2d College ed. 1986).

157. Wathern, *supra* note 110, at 15.

A final method commonly used in impact assessments is the modeling method. This method utilizes a simplified version "of the complex systems that exist in the real world" to show impacts.[158] Modeling is commonly used since other methods produce too much documentation when there is a large amount of environmental data to consider.[159] The process of creating a model can be time consuming and expensive, and analysts often draw upon existing models while altering the parameters and changing the assumptions.[160] Models appear on their face to be an excellent way to comply with *Dolan*, since they rely on mathematical, quantitative analysis. Research shows, however, that models are frequently attacked for being scientifically out of date or for not being applicable to the project at hand.[161] These past challenges, discussed in more detail below, make models fair game for challenge by landowner plaintiffs.

In sum, analyzing the inherent strengths and weaknesses of methodologies presently used in environmental assessments is useful to governments trying to comply with *Dolan's* quantification standard. Governments should find these methodologies helpful, while recognizing that there are many pegs upon which a landowner can hang his or her litigation hat.

2. Judicial Review

Governments' familiarity with the methodologies commonly used in environmental impact assessments is only somewhat helpful in determining whether they can overcome a *Dolan*-type claim. EISs under NEPA have been subject to long and protracted litigation as plaintiffs repeatedly challenge the sufficiency of the EIS. Similarly, regarding the CAA,[162] the EPA has come under attack for the methods they have used to measure the ambient air quality impacts[163] of proposed projects under the CAA. This section will examine judicial review under both NEPA and the CAA. Next, it will analogize NEPA and CAA judicial review to how courts might

158. MANDELKER, *supra* note 128, at 10-16 to 10-17.
159. *Id.*
160. Shopley & Fuggle, *supra* note 154, at 42.
161. *See infra* notes 165-69.
162. 42 U.S.C. § 7401-7642 (1988).
163. Ambient standards "specify the permissible concentrations of air pollutants in the atmosphere. . . ." Richard B. Stewart, *The Development of Administrative and Quasi-Constitutional Law in Judicial Review of Environmental Decisionmaking: Lessons from the Clean Air Act*, 62 IOWA L. REV. 713, 723 n.50 (1977).

approach takings cases.

a. NEPA & CAA

Generally, courts apply little substantive review under NEPA and are deferential to agency decisions concerning the methodology used to prepare EISs. As long as the agencies make a good faith effort to quantify their findings and the data presented through the methodology is not misleading, courts will uphold the methodologies used.[164] Courts take a similar stance when plaintiffs challenge modeling methodologies under the CAA. Courts have upheld the EPA's decisions when it has (1) used an invalidated model;[165] (2) made decisions based on modeling alone, without monitoring;[166] (3) made decisions based on modeling and monitoring even though there was a conflict with other modeling results;[167] and (4) relied on a model even though an alternative model was available.[168] Although courts could possibly give governments less deference under takings claims, they are likely to continue afford-

164. *See, e.g.*, Marsh v. Oregon Natural Resources Council, 490 U.S. 360, 377 (1989); Idaho Conservation League v. Mumma, 956 F.2d 1508, 1519 (9th Cir. 1992); Tribal Village of Akutan v. Hodel, 869 F.2d 1185, 1193 (9th Cir. 1988), *cert. denied*, 493 U.S. 873 (1989); Life of the Land v. Brinegar, 485 F.2d 460, 469 (9th Cir. 1973), *cert. denied*, 416 U.S. 961 (1974); Residents v. Dole, 583 F. Supp. 653, 664 (D. Minn. 1984); Davison v. Department of Defense, 560 F. Supp. 1019, 1025 (S.D. Ohio 1982); Brown v. EPA, 460 F. Supp. 248, 250 (S.D. Ohio 1978); Conservation Council v. Froehlke, 435 F. Supp. 775, 782 (M.D.N.C. 1977); Movement Against Destruction v. Trainor, 400 F. Supp. 533, 541 (D. Md. 1975).

165. *See, e.g.*, Northern Plains Resource Council v. EPA, 645 F.2d 1349, 1362-63 (9th Cir. 1981); Mision Indus., Inc. v. EPA, 547 F.2d 123, 129 (1st Cir. 1976).

166. *See, e.g.*, Hawaiian Elec. Co. v. EPA, 723 F.2d 1440, 1446 (9th Cir. 1984); Wisconsin Elec. Power Co. v. Costle, 715 F.2d 323, 327 (7th Cir. 1983); *Northern Plains Resource Council*, 645 F.2d at 1362-63; Columbus & S. Ohio Elec. Co. v. Costle, 638 F.2d 910, 912 (6th Cir. 1980); Cincinnati Gas & Elec. Co. v. Costle, 632 F.2d 14, 19 (6th Cir. 1980); Republic Steel Corp. v. Costle, 621 F.2d 797, 805 (6th Cir. 1980); Cleveland Elec. Illuminating Co. v. EPA 572 F.2d 1150, 1164 (6th Cir.), *cert. denied*, 439 U.S. 910 (1978).

167. *See, e.g.*, Indianapolis Power & Light Co. v. Costle, 13 Env't Rep. Cas. (BNA) 1461, 1465 (7th Cir. 1979); Cincinnati Gas & Elec. Co. v. EPA, 578 F.2d 660, 664 (6th Cir. 1978), *cert. denied*, 439 U.S. 1114 (1979).

168. *See, e.g.*, California *ex rel.* Air Resources Bd. v. EPA, 774 F.2d 1437, 1441 (9th Cir. 1985); *Hawaiian Elec.*, 723 F.2d at 1446; New York v. EPA, 716 F.2d 440, 444 (7th Cir. 1983); New York v. EPA, 710 F.2d 1200, 1203-04 (6th Cir. 1983); Connecticut Fund for Env't, Inc. v. EPA, 696 F.2d 169, 178 (2nd Cir. 1982); Connecticut v. EPA, 696 F.2d 147, 159 (2nd Cir. 1982); United States Steel Corp. v. EPA, 605 F.2d 283, 292-93 (7th Cir. 1979), *cert. denied*, 444 U.S. 1035 (1980) (stating that the results of alternative models were compatible with EPA's conclusion); *Cleveland Elec. Illuminating Co.*, 572 F.2d at 1161.

ing governments substantial deference.[169]

When NEPA was enacted in 1969, the legislature did not indicate a standard of review; therefore, it was up to the courts to fashion a standard.[170] For a period of time, the cases distinguished between two different duties of compliance. The courts imposed a procedural duty on agencies to comply with all of the section 102(C) requirements. Courts review the procedural requirements under a "rule of reason" standard, concentrating on whether the public and decision makers can make an informed decision from the EIS.[171] Courts had also imposed a substantive duty on agencies to reject or modify actions that have negative impacts on the environment.[172] Although the Supreme Court has since decided that NEPA only imposes a procedural duty on government agencies,[173] courts' brief analyses of the adequacy of EISs under a substantive standard of review is enlightening.

The argument that an EIS under NEPA could be reviewed for its substance originated in *Citizens to Preserve Overton Park, Inc. v. Volpe*.[174] A private citizen group was trying to prevent the Secretary of Transportation from using federal funds to construct a six lane highway through a public park.[175] The Court analyzed sec-

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169. *See infra* part III.B.2.b.

170. MANDELKER, *supra* note 128, at 10-17.

171. The court in *Sierra Club v. Corps of Engineers* provides an good explanation of this procedural standard:

> [T]he EIS must set forth sufficient information for the general public to make an informed evaluation, and for the decisionmaker to 'consider fully the environmental factors involved and to make a reasoned decision after balancing the risks of harm to the environment against the benefits to be derived from the proposed action.'

Sierra Club v. United States Army Corps of Eng'rs, 701 F.2d 1011, 1029 (2d Cir. 1983) (citations omitted) (quoting County of Suffolk v. Secretary of Interior, 562 F.2d 1368, 1375 (2d Cir. 1977), *cert. denied*, 434 U.S. 1064 (1978)).

172. MANDELKER, *supra* note 128, at 10-18.

173. The court in *Robertson v. Methow Valley Citizens Council* stated,

> Although [the] procedures [of NEPA] are almost certain to affect the agency's substantive decision, it is now well settled that NEPA itself does not mandate particular results, but simply prescribes the necessary process. If the adverse environmental effects of the proposed action are adequately identified and evaluated, the agency is not constrained by NEPA from deciding that other values outweigh the environmental costs.

Robertson v. Methow Valley Citizens Council, 490 U.S. 332, 350 (1989) (citation omitted).

174. 401 U.S. 402 (1971).

175. *Overton Park*, 401 U.S. at 406. Under the Federal-Aid Highway Act of 1968, the Secretary was not permitted to authorize federal funds to finance construction of highways

tion 706 of the Administrative Procedure Act (APA) to determine the correct standard of review.[176] It decided that the agency's decision could only be set aside if it was "arbitrary, capricious, and an abuse of discretion."[177]

Courts in subsequent cases interpreted *Overton Park* to require administrative agencies to take a "hard look" at the adequacy of their impact assessments.[178] As a result, courts would sometimes

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through parks if "feasible and prudent" alternatives existed. Even if there are no alternatives, the Secretary can only approve the construction if all possible mitigation efforts have been made. *Id.* at 405.

176. Section 706 of the APA addresses the scope of judicial review of administrative agency decisions:

> To the extent necessary to decision and when presented, the reviewing court shall decide all relevant questions of law, interpret constitutional and statutory provisions, and determine the meaning or applicability of the terms of an agency action. The reviewing court shall—
> (1) compel agency action unlawfully withheld or unreasonably delayed; and
> (2) hold unlawful and set aside agency action, findings, and conclusions found to be—
> (A) arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law;
> (B) contrary to constitutional right, power, privilege, or immunity;
> (C) in excess of statutory jurisdiction, authority, or limitations, or short of statutory right;
> (D) without observance of procedure required by law;
> (E) unsupported by substantial evidence in a case subject to sections 556 and 557 of this title or otherwise reviewed on the record of an agency hearing provided by statute; or
> (F) unwarranted by the facts to the extent that the facts are subject to trial de novo by the reviewing court.
> In making the foregoing determinations, the court shall review the whole record or those parts of it cited by a party, and due account shall be taken of the rule of prejudicial error.

5 U.S.C. § 706 (1994).

177. *Overton Park*, 401 U.S. at 414. The Court refused to conduct a de novo review under the APA because this form of review was limited to when the action is "adjudicatory in nature and the agency factfinding procedures are inadequate . . . [and] when issues that were not before the agency are raised in a proceeding to enforce nonadjudicatory action." *Id.* at 415. The Court also refused to apply the "substantial evidence" standard because it determined that the standard only applied if the action was through a rulemaking proceeding or was based on an adjudicatory hearing. *Id.* at 414.

178. MANDELKER, *supra* note 128, at 10-20. The term "hard look" was first used in this context by Judge Leventhal in the District of Columbia Circuit Court of Appeals. *See* Harold Leventhal, *Environmental Decisionmaking and the Role of the Courts*, 122 U. PA. L. REV. 509, 511 (1974) (encouraging higher scrutiny of science-based cases). The hard look doctrine requires that agencies "develop an evidentiary record reflecting the factual and analytical basis for their decisions, . . . explain in considerable detail their reasoning, and . . . give 'adequate consideration' to the evidence and analysis submitted by private parties." STEPHEN G. BREYER & RICHARD B. STEWART, ADMINISTRATIVE LAW AND REG-

scrutinize the scientific support agencies gave for their decisions. Although the amount of litigation over particular methodologies is small, the cases provide some insight on how courts might treat similar challenges under *Dolan.*

No cases challenge the sufficiency of checklist or network methodologies,[179] however, matrix and overlay methodologies have been challenged under NEPA. The leading case challenging the matrix methodology is *Minnesota Public Interest Research Group v. Butz.*[180] Environmental groups challenged the Forest Service's permission to cut timber in specified forest regions, charging that the Service's EIS under NEPA was inadequate. The Forest Service used the matrix methodology to calculate the impacts of various management activities and uses on the forest.[181] The District Court agreed with the plaintiffs, concluding that the methodology "does not represent an accessible means for opening up the decision-making process and subjecting it to critical evaluation outside the agency."[182]

Reversing the decision of the District Court, the Court of Appeals focused on the Forest Service's use of the study in good faith.[183] "We discern no intent . . . to mislead anyone."[184] The court noted that the EIS was not dispositive of the impacts and that it was impossible to predict the exact effects of any activity.[185] Most importantly, the court pointed out that it was not within judicial discretion to decide what methodology a government agency should use in quantifying the impacts of a project.[186]

This case not only shows the court's unwillingness to overrule a government's choice of methodology,[187] it also illustrates the

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ULATORY POLICY 363 (3d ed. 1992).

179. For a discussion of possible challenges to these methodologies, see *supra* notes 129-37, 146-51 and accompanying text.

180. 541 F.2d 1292 (8th Cir. 1976), *cert. denied*, 430 U.S. 922 (1977).

181. *Butz*, 541 F.2d at 1301. The activities analyzed included "soils, water level management, minerals, vegetation management, wildfire, wildlife habitat, recreation activities, recreation facilities, land occupancy, historical and archeological uses, and travel network and entry points." *Id.*

182. *Id.*

183. *Id.* at 1302.

184. *Id.*

185. *Id.*

186. "[NEPA] did not . . . anticipate that courts were to . . . determine the merits of conflicting views between the two or more schools of scientific thought and to thereafter disapprove any final EIS which may rely upon data which was inconsistent with the court's finding." *Butz*, 541 F.2d at 1302 (alteration in original) (quoting EDF, Inc. v. Froehlke, 368 F. Supp. 231, 240 (W.D. Mo. 1973), *aff'd*, 497 F.2d 1340 (8th Cir. 1974)).

187. *See also* Sierra Club v. Morton, 510 F.2d 813, 822 (5th Cir. 1975) (holding that

judicial deference given to the government's expert. Some courts, however, have been more willing to find a government's methodology inadequate. In *City of Romulus v. County of Wayne*,[188] the court held that an overlay methodology used to predict the noise impact of a proposed runway was inadequate. The court found that the decibel threshold chosen by the Federal Aviation Administration (FAA) was "highly misleading and did not conform to current scientific knowledge about the effect of noise on humans."[189] The plaintiffs presented expert testimony, accepted by the court, that the threshold chosen was a dangerous magnitude. The court also agreed that the FAA should have considered noise levels above and below the decibel level chosen.[190]

The court then added a caveat to its decision. It stated that the criticisms about the validity of the methodology went beyond a mere difference of opinion between scientists; the court was not attacking the underlying concepts of the overlay methodology.[191] Its primary concern was that the threshold decibel level chosen by the FAA was misleading to readers of the EIS.[192] The concerns expressed by the court in *Romulus* fit into the general view that the primary goal of NEPA is to provide the public and decision maker with adequate information upon which to base an informed decision.[193] As a result, the court was not really concerned with the methodological challenge.

Outside the context of NEPA, many challenges brought by plaintiffs attack the EPA's use of mathematical models to determine proper emissions standards for a particular region.[194] Like NEPA, the method of judicial review under the CAA is the "arbi-

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the use of a matrix for analyzing the impact of oil spills was permissible as a good faith effort at quantification and because it was no more arbitrary than plaintiffs' choice of methodology).

188. 392 F. Supp. 578 (E.D. Mich. 1975), *vacated as moot*, 634 F.2d 347 (6th Cir. 1980).

189. *Romulus*, 392 F. Supp. at 592.

190. *Id.* at 592-93.

191. *Id.* at 594.

192. *Id.*

193. Council on Environmental Quality, 40 C.F.R. § 1500.1(b) (1994) ("NEPA procedures must insure that environmental information is available to public officials and citizens before decisions are made and before actions are taken.").

194. The CAA requires that the EPA promulgate uniform federal ambient air quality standards. The statute requires the EPA to create standards for major pollutants and forces the states to devise implementation plans to ensure that the federal standards are attained. *See* 42 U.S.C. §§ 7408-7410.

trary and capricious" test of the Administrative Procedure Act (APA).[195] Although courts have found model methodologies inadequate under the CAA, they generally will uphold the decisions of the EPA.

A leading case that found an EPA decision inadequate when based on a modeling methodology is *Texas v. EPA*.[196] The state of Texas challenged the roll-back model used by the EPA to attain federal ambient air quality standards for the control of photochemical oxidant pollution (smog).[197] The state asserted that its model for reaching air emissions standards was more sophisticated than the EPA's and that the court should substitute it for the roll-back model.[198] Even though the court recognized the deficiencies of the roll-back model, it upheld the model's use because the EPA only had crude information to apply to a "wide-ranging government action."[199] The court did not mandate a greater level of reliability, but it did impose on the EPA a responsibility to develop and update its methods as the technology became available.[200]

The court concluded that particular portions of the EPA's plan were inadequate because it used incorrect data, assumptions, and adjustment factors while using the model.[201] The court held that the EPA's failure to address these objections made the EPA's decision arbitrary and capricious. Therefore, even though the court upheld the use of the *methodology*, it rejected the *data* the EPA used. The court did not find the methodology itself inadequate.

Other courts have looked closely at the methodology used by the EPA while promulgating standards.[202] In general, however,

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195. Section 307(d)(9)(A) of the CAA calls for application of the APA's arbitrary and capricious test under § 706(2)(A). *See* 42 U.S.C. § 7607(d)(9)(A).

196. 499 F.2d 289 (5th Cir. 1974), *cert. denied*, 427 U.S. 905 (1976).

197. *Id.* at 293.

198. *Id.* at 298.

199. *Id.* at 301. The court affirmed the EPA's rejection of Texas's model since it was novel, unsupported by data, and lacked meaningful explanation. It also had not been subjected to public scrutiny and comment like the EPA model. *Id.*

200. *Id.* at 301 n.16.

201. *Id.* at 308-09. The state's primary objection to the data was the reactivity factor applied to a hydrocarbon inventory for the petroleum refining reactive inventory. The EPA chose the lower of two possible factors based on data from Los Angeles and Louisiana. The state argued that 1) the Los Angeles study was outdated, 2) the Texas refineries had a product mix different from the west coast, and 3) special characteristics of the Texas refinery emissions made the chosen factor inconsistent with those characteristics. *Id.* at 308-09.

202. *See* Ohio v. EPA, 798 F.2d 880, 882 (6th Cir. 1986) (holding that the model the EPA used to set emission limits for electric utility plants was arbitrary and capricious because its reliability had not been adequately tested, monitored, or validated); PPG

courts are very deferential to the agency's choice as long as there is scientific support for the agency's conclusions.[203]

b. Application to Takings Cases

Although courts appear to show a substantial amount of deference to administrative agencies under both NEPA and the CAA, there is reason to believe there will be less government deference under the takings clause. Possible reasons for diminished deference include, (1) the allocation of the burden of proof, (2) the remedy in each of the different actions, and (3) the difference between constitutional and statutory bases of authority. However, courts are very reluctant to get involved in judicial review of complex, scientific data. Their primary concern is that governments are not abusing their police power to avoid paying compensation. As a result, courts are likely to defer to governments if they make a good faith attempt to quantify their decision-making.

Arguments that courts will diminish their traditional deference in takings cases are as follows. First, it is not clear whether courts are deferential to government agencies in NEPA and CAA cases. Rather, they could be concluding that the plaintiff did not meet the burden of proof.[204] If so, courts may more likely rule against the government in *Dolan*-type cases, because the Court in *Dolan* shifted the burden of proving a rough proportionality from the plaintiff to the government.[205]

Marsh v. Oregon Natural Resources Council supports the argument that courts might focus on the party with the burden of

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Indus., Inc. v. Costle, 630 F.2d 462, 467-68 (6th Cir. 1980) (holding that EPA failed to develop an adequate administrative record when it based its decision on modeling, rather than conflicting monitoring results); Cincinnati Gas & Elec. Co. v. EPA, 578 F.2d 660, 663-65 (6th Cir. 1978), *cert. denied*, 439 U.S. 1114 (1979) (finding use of dispersion coefficient arbitrary and capricious where agency ignored results of two privately financed studies and the conclusions of an experts' conference). Like *Texas v. EPA*, none of these cases found that the methodology could ever be adequate. In each, the agency only failed to adequately support its decision in light of other evidence.

203. *See supra* notes 164-68 and accompanying text.

204. In NEPA and the CAA, the burden is on the plaintiff rather than the agency. *See* Sierra Club v. Morton, 510 F.2d 813, 818 (5th Cir. 1975) (stating that the burden of proof is on plaintiffs in NEPA actions); Getty Oil Co. v. Ruckelshaus, 467 F.2d 349, 357 (3rd Cir. 1972), *cert. denied*, 409 U.S. 1125 (1973) (putting burden of proof on plaintiffs in enforcement proceeding under the CAA).

205. *See supra* note 75 and accompanying text (stating that the city in *Dolan* failed to meet its burden of justifying the impact of the proposed land use).

proof, rather than automatically deferring to the government.[206] In *Marsh*, the Court upheld the Army Corps of Engineers' decision, based on a modeling methodology, not to prepare a supplemental environmental impact statement (SEIS) for a dam construction project.[207] Plaintiffs sought to enjoin construction of the dam because of two documents developed after the Corps released its EIS and Final Environmental Impact Statement Supplement (FEISS).[208] In the proceeding below, the Court of Appeals used these documents to require that the Corps complete another SEIS.[209]

The Corps used computer simulation models to study the impact that the dam would have on water quality, fish production, and angling.[210] They determined that increases in temperature and turbidity caused by the dam might occasionally impair fishing, but decided to approve the project anyway.[211] The Corps concluded that the benefits of the project outweighed the costs and that the project was in the best interest of the public.[212]

The plaintiffs argued that a second SEIS was necessary because two documents were not adequately considered by the Corps. First, an internal memorandum (the "Cramer Memorandum") prepared by two biologists for the Oregon Department of Fish and Wildlife (ODFW) stated that the dam would adversely affect downstream fishing. The Cramer Memorandum was based on a draft ODFW study.[213] The court of appeals found several assertions in the Cramer Memorandum compelling.[214] Second, a soil survey conducted by the United States Soil Conservation Service (SCS) suggested that there could be greater downstream turbidity than the FEISS indicated.

Reversing the decision of the court of appeals, the Supreme Court attacked both the plaintiffs' methodology and their failure to quantify findings specific to the dam project. The Court first attacked the assertions of the Cramer Memorandum by pointing out

206. 490 U.S. 360 (1989).
207. *Marsh*, 490 U.S. at 361.
208. *Id.* at 364-65, 368-69.
209. *Id.* at 369-70.
210. *Id.* at 365. The river on which the dam was to be placed was one of the Nation's best fishing areas; therefore, the Corps paid special attention to the impacts on fish population and fishing. *Id.*
211. *Id.* at 365-67 & nn.5-8.
212. *Id.* at 367.
213. *Id.* at 369, 378-84.
214. The court of appeals also focused on an epizootic disease that could cause high fish mortality. *Id.* at 380.

that the report did not state the extent of the possible population reduction or the amount of warming to be expected.[215] "Instead, the memorandum estimated that an increase of only one degree centigrade in river temperature in January would decrease survival of spring Chinook 'from 60-80%.'"[216]

This criticism sounds remarkably similar to the Court's criticism of the city of Tigard in *Dolan*. It seems that the *Marsh* court is criticizing the ODFW memorandum for not establishing a rough proportionality between the need to do another SEIS and the actual impact of the dam on the spring chinook. Similarly, the Court in *Dolan* found no rough proportionality between the additional traffic created by Florence Dolan's hardware store expansion and the need for a bikepath.[217] Therefore, it is possible that courts will focus on the party with the burden of proof when analyzing the sufficiency of support for a given project, and not automatically grant deference to the government.

The *Marsh* Court also cited the Corps' criticisms of the plaintiff's methodology as another reason to disregard the Memorandum's concern.[218] This lends further support that courts will focus on the party with the burden of proof. "[B]ecause the model employed by ODFW had not been validated, its predictive capability was uncertain. Indeed, ODFW scientists subsequently recalculated the likely . . . increase in temperature, adjusting its estimate of a 60-to-80 percent loss downward to between 30 and 40 percent."[219] This is similar to when the Court criticized the city of Tigard for not adequately quantifying its traffic information.

The second reason courts might be less deferential in takings cases is that the stakes are much higher than under NEPA or the CAA. As discussed in *Romulus*, the primary goal of NEPA is to provide the public and decision maker with adequate information upon which to base a decision.[220] If an EIS is found to be inadequate, the EIS is simply redone. The same situation occurs where the EPA has inadequately used modeling methodologies to set emission standards. Under these two statutes, the agencies have a second chance to make things right.

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215. *Id.*
216. *Id.* at 380 (quoting the Cramer Memorandum 3a).
217. *Dolan*, 114 S. Ct. at 2321-22.
218. *Marsh*, 490 U.S. at 381.
219. *Id.*
220. *See supra* note 193 and accompanying text.

Under a takings challenge, the goal is more than informed decision making and the stakes are higher than requiring a new EIS or emission standard. The remedy for a successful takings claim is either damages for the property taken or rescission of the offending ordinance.[221] This makes it more important for courts to ensure that the correct substantive decision is reached. Sloppy work by a government body could waste taxpayer money through repeated takings challenges and the generation of faulty data.[222] This will give courts incentive to analyze takings cases more closely.

The third reason courts may review takings cases carefully is because they encompass a constitutional right rather than a statutory right. The provisions of NEPA and the CAA have no constitutional basis.[223] They are entirely creatures of the legislature. Property rights, however, enjoy a more favorable and protected status. Chief Justice Rehnquist has elevated the status of property rights through *Dolan* to an equal level with fundamental rights such as voting and free speech.[224] Courts, therefore, are more likely to require governments to adequately support their reasoning with hard data.

Although the discussion above is somewhat compelling, reality dictates that courts will still be substantially deferential in takings cases. First, most courts express a strong reluctance to question scientific analysis. There has been a longstanding debate about the amount of deference courts should give to substantive review of scientific decisions. Some commentators feel that courts should apply a "hard look" doctrine to scientific decisions. Judge Levanthal, a leading advocate of this view, asserts that courts should "foray into the technical world to the extent necessary to ascertain if the [government's] decision is reasoned. While we must bow to the acknowledged expertise of the administrator in matters technical we should not automatically succumb thereto, overwhelmed as it were by the utter 'scientificity' of the expedition."[225]

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221. MANDELKER, *supra* note 18, at 21.

222. On the other hand, however, the court could scrutinize too strictly and be too apt to strike down the government's actions. Plaintiffs would have incentive to challenge the government, thus increasing litigation.

223. Stewart, *supra* note 163, at 714 ("Advocacy of a constitutional right to environmental quality by scholars and litigants has been rejected by the courts.").

224. *Dolan*, 114 S. Ct. 2309, 2320 (1994).

225. Essex Chem. Corp. v. Ruckelshaus, 486 F.2d 427, 434 (D.C. Cir. 1973), *cert. denied sub nom.* Appalachian Power Co. v. EPA, 416 U.S. 969 (1974).

Others feel that procedural safeguards under environmental legislation are sufficient to ensure nonarbitrary decisions concerning scientific issues. Judge Bazelon states,

> [T]he best way for courts to guard against unreasonable or erroneous administrative decisions is not for the judges themselves to scrutinize the technical merits of each decision. Rather, it is to establish a decision-making process that assures a reasoned decision that can be held up to the scrutiny of the scientific community and the public.[226]

As review of the NEPA and CAA cases indicate, most courts appear to be in line with Judge Bazelon and accord more deference when scientific decision-making is at issue.[227]

Second, the Supreme Court has expressed a deep concern that governments are using their police power to avoid payment when acquiring property or accomplishing community goals. In *Nollan*, the Court criticized as "an out-and-out plan of extortion" the requirement that plaintiffs grant a beachfront easement in order to build on their lot.[228] Similarly, the Court made it clear in *Loretto* that "a landlord's ability to rent his property may not be conditioned on his forfeiting the right to compensation for a physical occupation."[229] If courts follow the approach taken in NEPA and CAA cases, they will uphold the government's methodology choice if it makes a good faith effort to quantify and the data presented is not misleading. This would mitigate the Court's concern that governments are trying to coerce landowners into giving up their land without being compensated.

From these two countervailing considerations, courts are likely to give at least as much deference in takings cases as they do in administrative regulatory challenges. However, the chance exists that some courts may closely scrutinize methodological challenges under the takings clause. Therefore, a question remains as to how governments can adequately comply with *Dolan*. The following section supplies recommendations for complying with *Dolan* in the

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226. International Harvester Co. v. Ruckelshaus, 478 F.2d 615, 652 (D.C. Cir. 1973) (Bazelon, J., concurring).

227. *See supra* notes 164-68 and accompanying text.

228. *Nollan*, 483 U.S. at 837 (citing J.E.D. Assocs., Inc. v. Atkinson, 432 A.2d 12, 14-15 (N.H. 1981), *overruled on other grounds by* Town of Auburn v. McEvoy, 553 A.2d 317 (N.H. 1988)).

229. *Loretto*, 458 U.S. at 439 n.17.

case of lower court deference.

IV. SUGGESTIONS FOR COMPLYING WITH *DOLAN*

Although *Dolan* purports to be an attempt by the Supreme Court to clarify the takings doctrine, placing the burden on government to prove adequate quantification creates new shades of gray. Perhaps *Dolan* is an attempt by the Supreme Court to reign in what they might consider overzealous state and local regulation. As discussed above, the Court has expressed concern that governments are using land regulations as an inexpensive way to acquire property. The Court may have thought it was time to raise the status of property rights in the Constitution generally. Regardless of the Court's reasons for the *Dolan* test, it may tip the balance just as far towards property owners as some perceive it was previously tipped towards governments' discretion to regulate.

One investigation has shown that fear of being required to pay just compensation poses a serious obstacle to environmental regulation. Several officials of state administrative agencies stated that they found state and federal takings jurisprudence too vague to provide any meaningful guidance.[230] As a result, officials saw the possibility of having to pay just compensation as a significant barrier to regulation.[231] At the time of the investigation, state officials thought *Nollan* increased regulations' chilling effect by expanding protection of private property rights.[232] Overall, the regulators thought that the takings clause encouraged litigation and stifled incentives to enact environmental regulation.[233]

State officials are likely to have the same reaction to *Dolan*, since the case seems to magnify their former fears of expanded private property rights protection and increased litigation. Chief Justice Rehnquist explicitly expanded property rights protection by

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230. Lynda L. Butler, *State Environmental Programs: A Study in Political Influence and Regulatory Failure*, 31 WM. & MARY L. REV. 823, 829 (1990). Ms. Butler conducted interviews with 26 officials from state environmental agencies and 10 local government officials. Additionally, interviews and meetings were held with various special interest groups. *Id.* at 827 n.16.

231. *Id.* at 829.

232. *Id.* at 830.

233. *Id.* Local government officials seem especially concerned about the impact of takings cases and expanding property rights. One official stated that "lawmakers who foresaw an increased risk of litigation would be more likely to weaken the regulatory programs that they adopted by, for example, including broad grandfather clauses; yet the weaker the program, the less effective it becomes." *Id.* at 831.

raising its status beyond that of a "poor relation."[234] Commentators have also predicted that placing the burden on the government to quantify their findings will increase litigation as landowners challenge the sufficiency of the governments' methodologies.[235] If state and local governments reduce regulation, landowners will have more latitude to make decisions concerning environmental protection. Faced with a choice between protecting environmental concerns and their own financial welfare, landowners are likely to place the environment on the back burner. Therefore, to keep an adequate balance between governments' temptation to overregulate and landowners' temptation to ignore environmental concerns, state and local governments need clarification on how they can comply with *Dolan* and still carry out their regulatory functions.

Two commentators have suggested methods to avoid the rubric of *Dolan*. First, they suggest land use regulations be made generally applicable, rather than site specific.[236] The commentators note that the Court made such a distinction in *Dolan*:

> [I]n evaluating most generally applicable zoning regulations, the burden properly rests on the party challenging the regulation to prove that it constitutes an arbitrary regulation of property rights . . . . Here, in contrast, the city made an adjudicative decision to condition petitioner's application for a building permit on an individual parcel. In this situation, the burden properly rests on the city.[237]

Second, they suggest using restrictions rather than dedications because courts are more sensitive to actual transfers of property than they are to restrictions on the use of property.[238] Third, the authors suggest alternative financing methods, such as a general tax or a special financing district.[239] Under these circumstances, the government could avoid showing a rough proportionality. Finally,

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234. Dolan v. City of Tigard, 114 S. Ct. 2309, 2320 (1994).

235. *See supra* notes 13-14 and accompanying text.

236. Kass & Gerrard, *supra* note 13, at 35.

237. *Id.* (quoting *Dolan*, 114 S. Ct. at 2320 n.8).

238. *Id.*

239. *Id. But see* N.J. REV. STAT. ANN. § 27:1C-2 (West 1995). New Jersey currently has a statute that establishes special financing districts. The districts are created in areas where there has been explosive growth and a subsequent increased burden on the state's transportation system. The district imposes special fees on developers who wish to build in these areas, so long as the fee is "reasonably related . . . to the added burden attributable to that development." *Id.* It appears, therefore, that the *Dolan* standard could creep into legislation for special financing districts as well.

they assert that quantifying the extent developers benefit economically from the restriction will prevent a landowner from asserting that he or she has suffered a loss in property value.[240]

All but the last of these suggestions help governments avoid situations in which a *Dolan*-type claim might arise by avoiding land use exactions altogether. This is not helpful, however, to governments that already have a regulatory system in place that is likely to be challenged. The following is a proposal to address this issue.

This Note proposes that state and local governments address *Dolan* from two different standpoints: substantive and procedural. From a substantive standpoint, governments should use the quantitative methodologies and techniques employed by administrative agencies under statutes like NEPA and the CAA. These methodologies and techniques have been tested, validated, and subjected to challenge. As a general rule, governments have successfully used them to quantify their decision-making. As discussed above, courts have tend to be deferential to administrative agencies' methodology choices. Courts could be less deferential to legislative enactments by governments in takings cases because governments have the burden of proof, the stakes are higher, and takings cases address a constitutional right. However, if state and local governments make a good faith effort to quantify their decisions, courts are likely to accord them some deference.[241] This substantive approach, however, is only the first step toward generating the rough proportionality required by *Dolan*.

Governments should also implement procedural safeguards to ensure that rough proportionality is achieved and also to dissuade landowners from challenging their quantification. This Note suggests making two levels of quantitative findings. On the first level, state and local governments should make broad, quantitative findings to support the regulatory system in general.[242] They could do

240. Kass & Gerrard, *supra* note 13, at 35. For example, a parcel of land is more valuable with a road built on it than without one. However, the majority in *Dolan* refused to take this factor into account. *Id.* Justice Stevens in his dissent was very disturbed that the majority did not consider the benefit conferred on the landowner by the permit condition, noting that state courts take such considerations into account. *Dolan*, 114 S. Ct. at 2324 (Stevens, J., dissenting).

241. *See supra* notes 225-29 and accompanying text.

242. At least one commentator has suggested that an environmental assessment should be done at each level of planning in the NEPA process. He asserts that this is necessary to judge the impacts on the surrounding area and that land planners must collect as much information as possible at every stage. Robert H. Twiss, *Linking the EIS to the Planning*

this either before the regulations are enacted or after enactment if the regulatory structure already exists.

The second level of quantification would occur when developers seek to have their projects approved under the regulatory structure. The government could approach this stage in one of two ways. First, it could make independent findings as to whether the landowner's proposed project would fit within the goals of the regulatory system. In this event, the government should impose conditions on or deny the project only if the methodology or technique used to quantify the impact of the project could support such conditions or denial. Alternatively, the government could generate a detailed questionnaire that would require the landowner to quantify the impact of the project on the area. The government could use the results generated from its first level of quantified findings to pinpoint exactly which impacts should be addressed.

There are advantages and disadvantages to either approach to the second level of quantification. If the government chooses to evaluate the landowner's proposal itself, the advantage is that the government can ensure that biases of the landowner have not skewed the results of the quantification in favor of approving the project.[243] The government would already be familiar with problems that might arise from the project because of its first level of quantification. The disadvantage is that the government has to incur additional costs. Some states may be unwilling to hire additional employees to evaluate each proposed project, once completing the first level of quantification. Other states, however, are likely to conclude that the benefits of avoiding suits under the takings

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Process, *in* ENVIRONMENTAL IMPACT ASSESSMENT: GUIDELINES AND COMMENTARY 13 (Thomas G. Dickert & Katherine R. Domeny eds., 1974).

Mr. Twiss identifies three levels of planning, referred to as "mission-oriented planning," and argues that land planners must study the impacts at each level to address different questions. *Id.* at 9-10. The lowest level of planning is the functional level. At this level are projects implemented in a similar type of area. One example Twiss uses is the Army Corps of Engineers protecting a particular area of coastline. *Id.* at 8. The second level of planning is program planning. In this case, the planning involves particular sets of technologies related to the type of location. Floodplain zoning and brush conversion are examples of this type of planning. *Id.* Finally, the highest level of planning is the policy-only plans; these have environmental implications, but no direct relation to any particular environment. *Id.* at 9. Twiss cites the increased amount of permissible tree-cutting in national forests to provide cheaper housing as an illustration. *Id.*

243. *See* Wathern, *supra* note 110, at 17 (arguing that landowners in preparing an environmental assessment are inherently biased and will only present results that lead to authorization).

clause outweigh the additional labor costs.[244]

Even if some states desire unbiased data, there is an advantage to having the landowner prepare a site specific impact assessment: lower cost. States could reduce costs by avoiding future lawsuits and by escaping additional labor costs. The landowner has significantly more information about the characteristics of the project and can therefore assess the impact of the project more efficiently.[245] As mentioned before, however, the disadvantage is that the landowner may skew the results in his or her favor to get the project authorized.

In complying with the second level of quantification, the goal of state and local governments is to have accurate data at low cost. Therefore, they would presumably prefer having the landowner substantially contribute to the second level of quantification using accurate and unbiased information. Governments would want to provide landowners with incentives to produce such information.

To combat the tendency towards biased assessments, state and local government could involve other citizens likely to be affected by the proposals.[246] Public input is a common feature in the administrative decisionmaking process.[247] A panel of interested members of the public could provide a check on developers. This panel could be set up on a voluntary basis so the government would not incur added expense.[248] At the same time, developers should be included in the process. They will then have less incentive to challenge a regulatory decision, since they were instrumental in its creation. Also, courts will be less concerned about govern-

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244. However, this benefit applies regardless of whether the government or the landowner does the second level of quantification.

245. *Id.* (asserting that having landowners prepare the assessment ensures that the assessment is "fully integrated into project formulation, as is almost universally advocated").

246. States already appoint members of the public to zoning and planning boards. *See, e.g.*, IND. CODE ANN. § 36-7-4-902 (Burns 1994) (appointing five citizens members to their advisory board of zoning appeals).

247. The Council on Environmental Quality requires that a federal agency completing an EIS under NEPA request comments from the public and "affirmatively" solicit comments from interested or affected people or organizations. Council on Environmental Quality, 40 C.F.R. § 1503.1(a)(4) (1994). Likewise, administrative agencies are required under § 553 of the APA to receive public input when engaging in formal rulemaking. 5 U.S.C.A. § 553 (1995); *see also* Clarice E. Gaylord & Geraldine W. Twitty, *Protecting Endangered Communities*, 21 FORDHAM URB. L.J. 771 (1994) (discussing the importance of considering the public interest in disputes between governments and landowners).

248. Wathern also has suggested a review panel of independent technical experts. Wathern, *supra* note 110, at 17. However, it is unlikely this could be done on a voluntary basis.

ments forcing landowners to exchange property rights for permission to develop because the landowners themselves had the opportunity to participate in the second level of quantification before their project is approved.

In sum, governments should use methodologies and techniques employed in other environmental assessments, bifurcate the assessments on a general and site specific level, and allow input from the public and developers. In this way, governments are likely to meet *Dolan's* burden of establishing a rough proportionality between their regulatory decisions and the impact of the proposed development. Although courts may give state and local governments less deference because of the unique circumstances of takings cases, their scrutiny should not be so harsh that governments are afraid to pass or enforce environmental regulations.

V. CONCLUSION

Implementation of the Fifth Amendment takings clause involves a delicate balancing so that government can work for the good of its citizenry without trampling upon the rights of individuals. There must be a compromise between the need to preserve the environment and the need to preserve property owners' rights. The Supreme Court's effort to clarify its takings doctrine in *Dolan v. City of Tigard* has the potential to be a step toward achieving the necessary balance. It should not, however, be used as a springboard by landowners to overrun government efforts to prevent environmental degradation. There is no constitutional right to a reasonably clean environment. This author, however, hopes that it will remain an enjoyable privilege.

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