

**GROWTH-INDUCED LAND DEVELOPMENT CAUSED BY HIGHWAY AND OTHER
PROJECTS AS AN INDIRECT EFFECT UNDER NEPA
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Summary

Growth-induced land development caused by highway and other projects must be considered as a significant indirect effect under NEPA. For this review, lawyers must look to the regulations adopted by CEQ specifying the causation and foreseeability tests for indirect effects. Several reports discuss procedures for deciding whether a highway could cause growth-induced land development, and recommend a prescreening process to make this decision. Case law also addresses when indirect effects must be considered. The cases pay limited attention to causation and foreseeability requirements, and agencies did not use a prescreening process in any of the decided cases. However, the criteria courts used to decide when growth-induced land development would occur are consistent with those suggested in the highway project reports.

Assume a new highway is built in an undeveloped area. The highway improves accessibility and is likely to attract growth that induces new development, such as a shopping center at an interchange. Local land use plans and regulations decide whether this development can be built, and what it will look like. But that is not all. If the highway is funded with federal assistance, the National Environmental Policy Act (NEPA)¹ applies.² If the federal or state agency prepares an environmental impact statement (EIS) or environmental assessment (EA), it may have to discuss the environmental effects of the shopping center as an indirect effect of the highway, and any measures to mitigate³ the environmental effects it causes. Other projects, such as airport improvements, can also cause growth-induced land development as an indirect effect.⁴

Council on Environmental Quality (CEQ) regulations define indirect environmental effects and distinguish them *11069 from direct environmental effects.⁵ A direct effect is an effect “caused by the action [that] occur[s] at the same time and place.”⁶ An increase in noise and air pollution caused by a highway project is an example. An indirect effect is “caused by the action and [is] later in time or farther removed in distance, but ... still reasonably foreseeable.”⁷ Effects associated with growth-induced land development are an example that is given in the regulation.⁸

Decisionmaking on indirect effects involves federal, state, and local agencies. Highways are an example. The Federal Highway Administration (FHWA) has NEPA responsibilities for federally assisted highways, but NEPA compliance duties may have been assumed by a state transportation agency.⁹ Local governments usually plan for and regulate new development, and state agencies are involved if state permits are required. Neither federal nor state transportation agencies have this authority. Nevertheless, FHWA or the state agency must consider the indirect effects of growth-induced land development in their NEPA review if they decide it could occur.¹⁰ Similar authority problems arise for other projects that can cause growth-induced land development, such as airports.

This Article considers the duty of agencies to discuss growth-induced land development as an indirect effect. Part I explains the CEQ regulation, and a causation test adopted by the U.S. Supreme Court that can apply to indirect effects. Part II reviews several reports prepared for highway projects that discuss how agencies can decide whether a highway could cause growth-induced land development. They

recommend a prescreening process in which an agency can apply criteria to decide whether growth-induced land development is foreseeable. Agencies can adapt these methods for use in other projects.

Part III reviews the case law that considers when agencies must discuss growth-induced land development as an indirect effect. The cases have paid limited attention to the causation and foreseeability requirements of the CEQ regulation, and agencies did not use a prescreening process in any of the decided cases. However, the courts used criteria to decide when growth-induced land development would occur that are consistent with those suggested in the highway project reports, though more limited in scope. The conclusion recommends that courts improve their review of agency decisions when asked to decide whether growth-induced land development could occur.

I. Legal Requirements for Considering Indirect Effects

A. Causation

As noted earlier, the CEQ regulation states that “[a]n indirect effect is “caused by the action and [is] later in time or farther removed in distance, but ... still reasonably foreseeable.”¹¹ Causation has been a requirement in NEPA law since an early Supreme Court case, *Metropolitan Edison Co. v. People Against Nuclear Energy (PANE)*.¹² The U.S. Nuclear Regulatory Agency authorized the restart of a nuclear reactor on a site where another had failed. The Court held the severe psychological health damage suffered by nearby residents because the reactor that was restarted was not an environmental effect covered by NEPA. Congressional intent suggested the terms ““environmental effect and impact” must “be read to include a requirement of a reasonably close causal relationship between a change in the physical environment and the effect at issue.”¹³ The Court added that “[t]his requirement is like the familiar doctrine of proximate cause from tort law.”¹⁴

***11070** *Department of Transportation v. Public Citizen*¹⁵ reaffirmed *PANE*. It held that a federal agency’s EA did not have to consider the environmental impact of admitting Mexican trucks to the United States because the president, not the agency, had the authority to authorize admission. The agency did not have the authority to refuse admission if the trucks met statutory safety and financial requirements. The Court rejected a “particularly unyielding variation of ‘but for’ causation, where an agency’s action is considered a cause of an environmental effect even when the agency has no authority to prevent the effect.”¹⁶ It again turned to tort law, approvingly referenced a leading torts treatise,¹⁷ and added that “[w]e hold that where an agency has no ability to prevent a certain effect due to its limited statutory authority over the relevant actions, the agency cannot be considered a legally relevant ‘cause’ of the effect.”¹⁸

Public Citizen’s causation rule does not prevent consideration of indirect effects. Unlike the agency in *Public Citizen*, agencies that do NEPA reviews have the authority to control their review and must discuss any foreseeable indirect effects they discover. A highway project, for example, can be the “legally relevant cause” of growth-induced land development under the Supreme Court’s proximate cause theory, because the improved accessibility a highway project creates can make development foreseeable in affected areas.

One problem is that private developers and state and local governments make land development happen, not the government agency responsible for a project. This need for third-party intervention could possibly create an intervening cause defense based on proximate cause theory. Growth-induced land development would not be an indirect effect of a project because intervening third parties, not the responsible

government agency, authorize and carry out new development.

This argument fails under an exception to the intervening cause rule, that third-party intervention is not an intervening cause if it is a foreseeable consequence of negligent conduct. As the *Restatement of Torts* explains, an intervening cause is not a defense to liability if “the negligent conduct of the actor creates or increases the foreseeable risk of harm through the intervention of another force.”¹⁹ As applied to the indirect effect problem, this exception means third-party intervention is not an intervening cause if a project, such as a highway, creates a foreseeable possibility that growth-induced land development could occur.

Courts rejected the intervening cause argument in cases where they considered it, though they did not use intervening cause terminology. The U.S. Court of Appeals for the Ninth Circuit, for example, held that an agency had to consider growth-induced development caused by a highway interchange, and rejected an argument it did not have to consider this development because it resulted from local and private, not federal, action.²⁰ The main purpose and only credible economic justification of the interchange, the court held, was to provide access for future industrial development. “The argument that the principal object of a federal project does not result from federal action contains its own refutation.”²¹

B. Foreseeability

The CEQ regulation states that growth-induced land development must be “‘reasonably foreseeable’” to be an indirect effect. Foreseeability is a requirement throughout NEPA, because NEPA should not require an agency to consider speculative and remote effects.²² Foreseeability also is an ambiguous term. CEQ provided guidance on the meaning of this term as it applies to indirect effects when it published a list of 40 questions and answers about NEPA in the *Federal Register* at the end of the Carter Administration. One question asked: “How *11071 should uncertainties about indirect effects of a proposal be addressed, for example, in cases of disposal of federal lands, when the identity or plans of future landowners are unknown?”²³ CEQ explained that “total uncertainty” does not require speculation, but that an agency may not ignore “uncertain, but probable, effects of its decisions.”²⁴ It must make a good-faith effort. CEQ’s response is reproduced in the footnote.²⁵ For its federal land disposal example, it suggested consideration of development trends in the area, or the likelihood that the land would be used for a project, recommendations that can apply to growth-induced land development.

The CEQ regulation does not define “reasonably foreseeable,” but court decisions have. *Sierra Club v. Marsh (II)*²⁶ is a leading case. The U.S. Court of Appeals for the First Circuit held that the construction of a seaport in Maine would attract light-dry industries as an indirect effect. It held that “the terms ‘likely’ and ‘foreseeable,’ as applied to a type of environmental impact, are properly interpreted as meaning that the impact is sufficiently likely to occur that a person of ordinary prudence would take it into account in reaching a decision.”²⁷ The court listed several factors courts should consider when applying its “ordinary prudence” test,²⁸ but they do not apply to growth-induced land development. *Sierra Club*’s reasonably foreseeable test, and the Supreme Court’s proximate cause rule, are not always cited by the courts in the growth-induced land development cases.

II. How to Decide When a Highway or Other Project Could Cause Growth-Induced Land Development

For each project that comes under NEPA review, an agency must decide whether growth-induced land development is foreseeable as an indirect effect.²⁹ This decision may be made in an EA that decides whether a project is environmentally significant, or in an EIS that discusses significant environmental effects and their mitigation. If an agency decides that growth-induced land development could occur, it must discuss its significant environmental effects and their mitigation.

Agencies must have a process and criteria for deciding when growth-induced land development could occur as an indirect effect, but there is no established practice. State transportation departments or private consultants, often with federal funding, have prepared a number of reports³⁰ on indirect effects to meet this need for highways.³¹ This *11072 section reviews these reports.³² Though they were prepared for highways, many of their recommendations can apply to other projects. The difference is that other projects may not bring improved accessibility, which is a major reason why highways could cause growth-induced land development.³³

Identifying growth-induced land development as an indirect effect of highway projects is complicated.³⁴ As one report noted, “[t]here is good evidence that the ‘leading’ role of highway improvements has diminished as interstates have been completed, urban areas have matured, and urban road networks have come to serve all parts of metropolitan areas.”³⁵ They may now have less of an impact on land use in mature areas, and indirect effects may be smaller.³⁶ Agencies may have difficulty deciding whether land use changes are responding to the highway network, or whether transportation improvements are only responding to development and settlement patterns.³⁷

A report authorized by a presidential Executive Order found an immature practice in the review of indirect effects, with considerable variability in detail level. A majority of environmental reports treated indirect effects in a cursory fashion.³⁸ Another report found conflicts between the transportation agencies that carry out the projects and the resource agencies that comment on them. Resource agencies defined indirect effects broadly in order to protect resources, while transportation agencies defined indirect effects narrowly because they believed a broad definition would be harmful to the project. The relative strength or power of an agency as compared to other agencies may decide how broadly indirect effects are considered.³⁹

As a specific guideline, the reports suggest agencies should analyze indirect effects if a highway project is planned for a specific development,⁴⁰ or “[i]f a project’s justification depends in whole or part on marketing induced growth or other project-generated benefits to the area,” such as access to a major activity center.⁴¹ Advice varies when this purpose or linkage is not present. One report suggests growth-induced land development occurs when new transportation capacity provides a new access point, serves a geographic area in which growth conditions are present, or increases accessibility by reducing travel times.⁴² Another adds that “spatial effect is primarily a function of project type and maturity of the regional transportation system and land development,” and that greater effects are associated with new facilities as compared with the expansion of existing facilities.⁴³

The link between a highway project and growth-induced land development can be tenuous, as a complex interplay of public and private intervening factors may be necessary before development can occur.⁴⁴ Transportation is not the only variable. Other variables, such as “market demand, site suitability, capital availability, market feasibility, and regulatory controls,” can play a significant role in development decisions, and agencies must consider them.⁴⁵ So can “location attractiveness, consumer preferences, the

existence of other infrastructure, local political and economic conditions, and the rate and path of urbanization *11073 in the region.”⁴⁶ The impact of a new highway on future development must be balanced against the expected market response.

Local comprehensive plans are an important factor, as a plan may consider the effect of a proposed highway project on future growth.⁴⁷ An agency could then rely on the plan to satisfy its duty to consider growth-induced land development. Plans have limitations, however. One problem is that agencies should consult plans with caution. They seldom make assumptions about future transportation improvements in their land use policies,⁴⁸ so may not consider the effect of a highway improvement on future growth. Neither may a plan be reliable, as reliability depends on the age of the plan, the geographic area covered, who was involved in its preparation, and the degree of importance attached to planning goals by public and decisionmaking bodies.⁴⁹ Even when a plan considers the potential for future development, a highway project may modify the plan’s assumptions by accelerating development or spatially dictating where it could occur.⁵⁰

Deciding whether this complex interplay of factors could produce growth-induced land development requires a prescreening process, and the adoption of criteria for making this decision.⁵¹ Advice on acceptable criteria varies,⁵² but the choice of a prescreening process and criteria is up to the agency, and courts usually defer to an agency’s choice of methodology.⁵³ A decision matrix⁵⁴ included in an Oregon report provides a helpful option.⁵⁵ It lists the factors that can cause land use change, such as a change in accessibility provided by a highway, the influence of market supply and demand, and other factors that affect development.⁵⁶ The matrix includes data sources for evaluating these factors; a value assignment for each factor at increasing value levels, e.g., improvements in accessibility in increasing minutes; and estimates of the probability for change for each factor based on its strength. It seems to assume a process that balances the influence of each factor on the probability that growth-induced development might occur. Each factor apparently has equal weight, though a weak showing on accessibility would be an important negative result.⁵⁷ A balancing process is appropriate for a decisionmaking process in which decisionmakers must weigh and balance a number of interacting concerns.⁵⁸

An agency must also select an appropriate study area within which the prescreening study is carried out.⁵⁹ There is no consensus on how to make this decision. The FHWA suggests, “an acceptable general guideline for determining the area of influence is the geographic extent to which a project will affect traffic levels.”⁶⁰ Another report suggests consideration of political and geographic boundaries, commute shed, growth boundaries, watershed and habitat boundaries, and interviews and public involvement.⁶¹ A time frame for the prescreening study must also be selected. Here, there also is considerable variation and no accepted guideline, with one study noting that five to 10 years is often chosen.⁶²

*11074 There is no clear consensus on how to decide when a highway can cause growth-induced land development, but the factors that influence its occurrence are reasonably clear, and there is helpful guidance on the role of comprehensive plans. The decision matrix suggested in the Oregon report can provide a basis for a prescreening process, and adapted for use in other projects where accessibility is not a factor. Choice of a study area and time frame can be problematic, but these issues did not appear in the court decisions.

III. Court Decisions on Growth-Induced Land Development as an Indirect Effect

This section reviews court decisions that considered whether highway and other projects could cause growth-induced land development.⁶³ The cases take a very limited view of this problem. In none of them did an agency carry out a prescreening process, though courts often applied factors the highway reports identified as indicating whether growth-induced land development could occur. Courts usually considered only one of these factors, however, and based their decisions on clear indicators that growth-induced land development would or would not happen.⁶⁴

A. Government and Private Projects Other Than Highway Projects

One set of cases considered public projects that were not highway projects. Airport improvements funded by the Federal Aviation Agency (FAA),⁶⁵ such as new runways, are an example. The cases also considered private projects that required a government permit.

Courts required a consideration of growth-induced land development only when it was the admitted purpose of a project or clearly expected to occur, as the highway reports recommended. In one case, major improvements to a regional airport were admittedly taken to stimulate regional growth by improving access to the region's tourist attractions.⁶⁶ In another, the U.S. Army Corps of Engineers (the Corps) issued a wetlands fill permit⁶⁷ to a county for a biotechnology research park project that the county planned with a private institute.⁶⁸ The county secured economic stimulus funds, land rights, rezoning, and expedited permitting at the state level to establish the research park for the express purpose of expediting growth. Other cases required consideration of growth-induced land development in similar fact situations.⁶⁹

A number of cases decided this type of project would not cause growth-induced land development. Some held that it was not reasonably foreseeable as required by the *11075 CEQ regulation.⁷⁰ In a district court case, for example, a master plan for an extensive development in the project area was abandoned, and foreseeable development was not a goal of the project.⁷¹ Cases held that improvements in airport operations,⁷² such as changes in flight patterns, did not cause growth-induced land development because they met only existing needs and demand.⁷³

Other cases relied on policies in local land use plans, and on the ability of federal, state, and local regulations to control future development, to hold that agencies did not have to consider growth-induced land development. In a case involving a new reservoir,⁷⁴ for example, the land use element of the local plan showed that most development would be around cities and major transportation corridors, not the reservoir. It was protected by a buffer, any disturbance would require state permission, and any development affecting aquatic sites would require a federal permit.⁷⁵ The courts did not decide whether these plans and regulations were acceptable. The next section considers whether agencies can rely on local plans and regulations, and on a purpose to serve existing needs, to avoid considering growth-induced land development.

B. Highways

1. Growth-Induced Land Development Must Be Considered

In the highway cases, courts also required agencies to consider growth-induced land development when agencies admitted this was the project purpose, or when the nature of the project and the expected market

response indicated it was obvious that growth would occur. *City of Davis v. Coleman*,⁷⁶ decided before CEQ adopted its final NEPA regulations, is a leading case that is still relevant.⁷⁷ The court implicitly used a balancing test, in which it considered the new accessibility provided by the project along with market and other factors that influenced whether growth would occur.

Transportation agencies planned a large interchange in an agricultural area near the city of Davis, California, and another city on a major interstate highway, to provide permanent access to the highway. The area plan showed sites designated for industrial development adjacent to the highway, and promotion of these sites had started. A three-page agency finding concluded an EIS was not necessary.⁷⁸ It also admitted that the area was about to undergo rapid change to urban development because it was near a state university in Davis, and that the interchange would provide direct and safe access between the university and proposed industrial development. The court concluded that the interchange “is not being built to meet the existing demand for freeway access but to stimulate and service future industrial development in the Kidwell area which Solano County and the city of Dixon are now planning.”⁷⁹ *11076 It added that “[t]he growth-inducing effects of the Kidwell Interchange project are its *raison d’être*.”⁸⁰

The court also considered the foreseeability problem. It held that the purpose of an impact statement is to “evaluate the possibilities in light of current and contemplated plans and to produce an informed estimate of the environmental consequences.”⁸¹ Foreseeing the unforeseeable is not required, but “an agency must use its best efforts to find out all that it reasonably can.”⁸²

Other cases held that agencies had to consider growth-induced land development caused by highway projects in similar circumstances. In these cases, there was either an admission that land development would occur, the nature of the project and the area in which it was built made it obvious it would occur, or the encouragement of growth was the project purpose.⁸³ *Mullins v. Skinner*⁸⁴ illustrates these cases. The court held that the transportation agency had to consider the growth-inducing effects of a high-rise, fixed-span bridge to a barrier island off the North Carolina coast. Several experts testified that growth-inducing effects would occur, the agency conceded that growth in the area was the primary purpose of the project, and the court concluded a contrary conclusion could not be supported by human experience or any reasonable application of known social, scientific, developmental, and traffic engineering principles.⁸⁵

2. Growth-Induced Land Development Need Not Be Considered

A number of cases held that a highway project would not cause growth-induced land development. In some of these cases, additional new development was not dependent on the highway. Extensive testimony in a district court case, for example, showed that development would occur because of market demand, not the highway. The “basic premise” of plaintiffs’ argument, that access to transportation induces development, was debatable in the area.⁸⁶ In other cases, the court found that growth-induced land development would not occur because the area affected by the highway project was already developed or committed to development not contingent on the highway.⁸⁷ The project could not have any impact on land in the affected area. All of these cases implicitly found a lack of the causation required by the CEQ regulation.

Cases also held that growth-induced land development did not have to be considered because the purpose of the project was only to serve existing development,⁸⁸ existing traffic and development needs, projected growth in traffic and development,⁸⁹ or to ease congestion.⁹⁰ An example is a case where the court found

that the purpose of a water reservoir was to keep up with the water demands of a county's increasing population.⁹¹ Projected population *11077 growth, the court held, was not attributable to the construction of the reservoir.

The courts accepted these purposes uncritically, and none considered the purpose and need statement for the project. A CEQ regulation requires a statement of purpose and need in EISs, and a similar statement in EAs,⁹² to determine what alternatives an agency must consider.⁹³ If the purpose and need of a highway project is broadly stated to "improve transportation," for example, the agency must consider transportation alternatives in addition to highways. Courts do not accept purpose and need statements uncritically. They review them to see if they are drawn so narrowly that they prevent an adequate consideration of alternatives.⁹⁴ Assuming it is acceptable to rely on a purpose and need statement to avoid consideration of growth-induced land development, courts should review these statements to see if purpose and need are correctly stated. They should also accept such statements as only one factor in deciding whether a highway could cause growth-induced land development.⁹⁵

The cases have held that it is acceptable for agencies to rely on local plans to satisfy NEPA requirements,⁹⁶ and the indirect effect cases are an example.⁹⁷ In a Ninth Circuit case, for example, the impact statement admitted growth-induced land development might result from a freeway, but the court held that it did not have to be considered because it was planned, accounted for, and analyzed in the local Carmel Valley Master Plan.⁹⁸ As noted earlier, however, plans have limits. They may not include assumptions about highway improvements and may not be reliable.⁹⁹ A highway project may also change the rate and pattern of development, as some courts admit.¹⁰⁰ Nevertheless, judicial acceptance of reliance on local plans in these cases was uncritical, though one district court held that an agency could not rely on a local plan whose approach to a highway project was self-serving opposition.¹⁰¹ CEQ regulations do not authorize federal agencies to rely on local plans to avoid a consideration of growth-induced land development. They require only a discussion of possible conflicts with any "land use plans, policies and controls for the area concerned,"¹⁰² and that agencies discuss and reconcile any inconsistencies with approved state or local plans or laws.¹⁰³

Agencies may also rely on local land use regulations as a reason for not considering growth-induced land development. A district court held that growth-induced land development possibly caused by a highway need not be considered because the county, by restricting utilities and enforcing land use regulations, could prevent unwanted commercial development and limit the amount and density of residential development.¹⁰⁴ The court did not consider the acceptability of these regulations.

Courts have given limited consideration to the role of land use regulations, such as zoning, in NEPA compliance. An early district court case held that a U.S. Navy housing project that violated local zoning was not a threat to the environment. "NEPA may not be used by communities to shore up large lot and other exclusionary zoning devices that price out low and even middle income families."¹⁰⁵ This case suggests that restrictive local controls should not allow agencies to refuse consideration of growth-induced *11078 land development. Otherwise, a municipality could prevent development in an area affected by a new highway with large lot zoning or some other restriction, and the agency could then claim growth-induced land development would not occur.

Other measures that affect NEPA compliance do not escape judicial review. For example, courts do not allow agencies to rely on mitigation measures, including local mitigation measures, if they are

inadequate.¹⁰⁶ Likewise, agencies should not be allowed to rely on unacceptable or inadequate state and local plans and controls to avoid discussing growth-induced land development. Judicial review of these plans and controls is necessary to avoid an unrestricted delegation of authority for NEPA compliance to nonfederal agencies. There is no authority for such delegation in the statute or regulations. Delegation, when it occurs, is done through specific legislative authority.

IV. Conclusion

A CEQ regulation provides a definition of indirect effects, and report recommendations suggest a prescreening process in which agencies decide when growth-induced land development could occur. Court decisions, however, have largely ignored the CEQ regulation, and agencies did not use a prescreening process in the cases the courts decided. Instead, the cases often relied on a single deciding factor as a clear indicator that growth-induced land development would or would not happen. These indicators are generally consistent with prescreening criteria recommended for highway projects, and with the definition of indirect effect in the CEQ regulation. Courts applied the foreseeability requirement of the CEQ regulation, for example, when they decided it was obvious that a project would cause growth-induced land development.

Courts should continue to insist that agencies consider growth-induced land development when there are clear indicators that it could occur, as when a statement of purpose includes it, and when circumstances indicate that development is obvious. A statement of purpose that a project is intended only to meet existing needs should not be an inflexible barrier to a discussion of growth-induced land development. For these and other cases where there are no clear indicators, courts should use a case-by-case balancing test based on a prescreening matrix to decide whether growth-induced land development could occur.

A more difficult question is whether a court can order an agency to use a prescreening process and criteria. A court of appeals, in an indirect effect case, held that a court could not order an agency to use more sophisticated planning methods to determine environmental impacts, because the order was beyond NEPA's statutory requirements.¹⁰⁷ Agencies should be encouraged to use a prescreening process and criteria, however, to decide whether a project could cause growth-induced land development,¹⁰⁸ and courts usually accept a methodology an agency selects.¹⁰⁹ Courts can then review a decision made in this process to decide whether it was correct.

Growth-induced land development caused by highway and other projects is an important environmental effect. Despite accumulated experience under NEPA, however, agency procedures and criteria for considering such development, and judicial review of agency decisions that reject consideration of such development, are unsatisfactory. Agencies must improve their decisionmaking. Courts must develop meaningful standards for deciding when growth-induced land development is an indirect effect covered by NEPA.

Footnotes

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¹ 42 U.S.C. §§4321-4370h, ELR STAT. NEPA §§2-209.

² See 42 U.S.C. §4332(2)(C)(i) (2006 & Supp. 2012) (proposals for major federal actions that significantly affect the quality of the human environment to have detailed statement on “the environmental impact of the proposed action”). Federal funding makes the highway a federal action, and it is likely to be a major project.

³ *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 19 ELR 20743 (1989) (agency has responsibility to discuss, but not to implement, mitigation measures); 40 C.F.R. §§1502.14(f), 1502.16(h) (2012) (defining mitigation). If the agency prepares an EA, it can propose mitigation measures as the basis for a finding that significant environmental effects will not occur. Daniel R. Mandelker, *NEPA Law and Litigation* §8:57 (2013).

For a discussion of mitigation options for growth-induced land development, see THE LOUIS BERGER GROUP, *DESK REFERENCE FOR ESTIMATING THE INDIRECT EFFECTS OF PROPOSED TRANSPORTATION PROJECTS 95-99* (National Cooperative Highway Research Program, Report No. 466, Transportation Research Bd., 2002), available at http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_rpt_466.pdf [hereinafter *DESK REFERENCE*]. The report recommends a variety of land use regulations, such as access controls, growth management regulation, resource management and preservation regulations, and transfer of development rights. These are local regulations, but they must be discussed in an EIS. See *Robertson*, 490 U.S. at 352-53 (describing duty of federal agencies to discuss mitigation measures when implementation is local).

⁴ Other examples are water and sewer pipelines, new water or sewer treatment plants, deepening a navigation channel, and building or expanding a new inland or water-based cargo port, if there is federal funding, a federal permit, or some other federal link.

⁵ Owen Schmidt criticizes this distinction. He argues that all consequences are direct, though those further down the chain could be called indirect. He believes that dividing consequences into categories is a waste of time and effort. *SAYING WHAT WE MEAN: DIRECT, INDIRECT, AND CUMULATIVE*, NAEP NATIONAL E-NEWS 2 (Nov.-Dec. 2012). This criticism has merit, but it makes sense to consider growth-induced land development as a separate category even though its labeling as indirect may be confusing.

⁶ 40 C.F.R. §1508.8(a) (2012).

7 40 C.F.R. §1508.8(b). Changes in the environment can also be indirect effects. One report distinguishes induced growth from encroachment-alteration indirect effects, which are “physical, chemical or biological changes in the environment that occur as a result of the project but are removed in time or distance from the direct effects.” An example is the decline of a particular species as a result of habitat fragmentation caused by a project. This Article does not discuss this type of indirect effect. ASSESSING INDIRECT EFFECTS AND CUMULATIVE IMPACTS UNDER NEPA 2 (AASHTO Practitioner’s Handbook, 2008), *available at* http://environment.transportation.org/pdf/programs/practitioners_handbook_12.pdf [hereinafter ASSESSING INDIRECT EFFECTS].

8 The regulation states that “[i]ndirect effects may include growth inducing effects and other effects related to the induced changes in the pattern of use, population density or growth rates.” 40 C.F.R. §1508.8(b) (2012).

9 NEPA authorizes the assumption of NEPA compliance responsibilities by state transportation agencies. 42 U.S.C. §4332(2)(D) (2006 & Supp. 2012). Assumption by the states is also available under the federal-aid highway act. 23 U.S.C. §327 (2006 & Supp. 2012).

10 An agency must decide what type of growth-induced land development will occur if a decision is made that it will occur. Agencies have several forecasting methods available to make this decision, including the use of planning judgment, collaborative judgment using a Delphi Panel, elasticities that relate change in highway capacity to change in travel behavior and land use effects, allocation models, four-step travel demand models, and integrated transportation-land use models. *See* URI AVIN ET AL., FORECASTING INDIRECT LAND USE EFFECTS OF TRANSPORTATION PROJECTS ch. 4 (National Cooperative Highway Research Program, Project 25-25, Task 22, Transportation Research Bd., 2007), *available at* http://onlinepubs.trb.org/onlinepubs/archive/NotesDocs/25-25%2822%29_FR.pdf. A Delphi Panel is a panel of selected experts who provide their assessment of likely future outcomes by responding to several rounds of questions. *Id.* at 62.

11 40 C.F.R. §1508.8(b) (2012). *See generally* MANDELKER, *supra* note 3, at §8:38.

12 460 U.S. 766, 13 ELR 20515 (1983). *See* MANDELKER, *supra* note 3, at §8:38.

13 460 U.S. 774.

14 *Id.* The Court added, “courts must look to the underlying policies or legislative intent in order to draw a manageable line between those causal changes that may make an actor responsible for an effect and those that do not.”

15 541 U.S. 752, 34 ELR 20033 (2004).

16 *Id.* at 767. It added that “a ‘but for’ causal relationship is insufficient to make an agency responsible for a particular effect under NEPA and the relevant regulations.”

17 W. PAGE KEETON ET AL., PROSSER AND KEETON ON LAW OF TORTS 264, 274-75 (5th ed. 1984).

18 541 U.S. 770.

19 RESTATEMENT (SECOND) OF TORTS §442A. This rule is consistent with the statement of the law in KEETON ET AL., at 303. “If the intervening cause is one which in ordinary human experience is reasonably to be anticipated, or one which the defendant has reason to anticipate under the particular circumstances, the defendant may be negligent.”

20 *City of Davis v. Coleman*, 521 F.2d 661, 677, 5 ELR 20633 (9th Cir. 1975). *Accord Mullins v. Skinner*, 756 F. Supp. 904, 921 (E.D.N.C. 1990) (rejecting argument that significant changes in development patterns can only be brought about by zoning changes, not by construction of high-rise bridge to barrier island; argument “so utterly devoid of common sense and inconsistent with NEPA that it cannot be taken seriously,” as zoning changes inevitably follow development pressures, and “court did not need plaintiffs’ experts to tell it that zoning changes inevitably follow development pressures. To believe otherwise is to ignore reality.”; argument ignores definition of indirect effect in CEQ regulation; “Even though zoning changes may be necessary to alter existing uses of land, if a major federal action makes it likely that such changes will occur, the action will have an indirect effect on the environment,” citing *Davis*).

21 A federal district court adopted a contrary analysis, again without using intervening clause terminology. *Center for Biological Diversity v. United States Dep’t of Hous. & Urban Dev.*, 541 F. Supp. 2d 1091 (D. Ariz. 2008), *aff’d*, 359 Fed. Appx. 781 (9th Cir. 2009). Federal agencies provided mortgage insurance, loan guarantees, and loans for residential and commercial development, which had negative environmental effects on a water table. The court found that the federal loans, guarantees, and insurance were too attenuated to qualify as actions that significantly affected the environment. Federal agencies did not control where their financial assistance was used. “Local developers and planners are responsible for the number of physical structures that may have an actual effect on the watertable.” *Id.* at 1101. The court did not cite *Public Citizen*. This case is an incorrect reading of the intervening cause rule. Land development financed by assistance from the federal agencies was arguably foreseeable under the *Restatement’s* exception to the rule. *See also Sierra Club v. Clinton*, 746 F. Supp. 2d 1025 (D. Minn. 2010) (insufficient causal relationship between proposed pipeline and development of Canadian oil sands, *Public Citizen* cited).

22 *E.g.*, 40 C.F.R. §1598.25(c) (2012) (must consider “reasonably foreseeable future actions” as

cumulative impacts); §1502.22(b) (must obtain incomplete or unavailable information if “relevant to reasonably foreseeable significant impacts [and it] is essential to a reasoned choice among alternatives and the overall costs of doing so are not exorbitant”). *See, e.g.*, *Mid States Coalition for Progress v. Surface Transp. Bd.*, 345 F.3d 520 (8th Cir. 2003) (applying incomplete information rule, must consider decline in air quality from greater availability of low-sulfur coal through rail line for power generation); *Village of Grand View v. Skinner*, 947 F.2d 651, 22 ELR 20120 (2d Cir. 1991) (improved interchange design along with ““reasonably foreseeable” developments in highway corridor will not ultimately require second span of bridge as cumulative impact).

²³ Forty Most Asked Questions Concerning CEQ’s National Environmental Policy Act Regulations, Question 18, 46 Fed. Reg. 18026, 18031 (1981). *See* *Western Land Exch. Project v. United States Bureau of Land Mgt.*, 315 F. Supp. 2d 1068 (D. Nev. 2004) (sale of federal land under federal act; impacts actually intended; aggressive development of land assumed and purpose of project was to accommodate orderly expansion of a city).

²⁴ A distinction between probability and certainty is made in CALTRANS, GUIDANCE FOR PREPARERS OF GROWTH-RELATED, INDIRECT IMPACT ANALYSES 5-4 (2012), *available at* http://www.dot.ca.gov/ser/Growth-related_IndirectImpactAnalysis/GRI_guidance06May_files/gri_guidance.pdf. The Guidance distinguishes between the probability of a prediction and its reliability. Both are needed, and a practitioner must be sure of the reliability of her data sources. Some of the data sources that help decide whether growth-induced development will occur have reliability problems, such as land use policies in comprehensive plans. A CEQ regulation deals with the problem of uncertainty in impact statements. 40 C.F.R. §1502.22 (2012).

²⁵ The EIS must identify all the indirect effects that are known, and make a good-faith effort to explain the effects that are not known but are ““reasonably foreseeable.” 40 C.F.R. §1508.8(b). In the example, if there is total uncertainty about the identity of future landowners or the nature of future land uses, then, of course, the agency is not required to engage in speculation or contemplation about their future plans. But, in the ordinary course of business, people do make judgments based upon reasonably foreseeable occurrences. It will often be possible to consider the likely purchasers and the development trends in that area or similar areas in recent years; or the likelihood that the land will be used for an energy project, shopping center, subdivision, farm, or factory. The agency has the responsibility to make an informed judgment, and to estimate future impacts on that basis, especially if trends are ascertainable or potential purchasers have made themselves known. The agency cannot ignore these uncertain, but probable, effects of its decisions.

²⁶ 976 F.2d 763, 23 ELR 20321 (1st Cir. 1992).

²⁷ *Id.* at 767. The court interpreted the term “likely” as equivalent to “foreseeable” or “reasonably foreseeable.” It added that “a likelihood of occurrence, which gives rise to the duty, is determined from the perspective of the person of ordinary prudence in the position of the decisionmaker at the time the decision is made about what to include in the [EIS].” *Id.* Prof. Todd Aagaard has criticized

the foreseeability test: “Despite its widespread adoption in the law, however, courts have found that operationalizing reasonable foreseeability is extremely difficult.” Todd S. Aagaard, *A Functional Approach to Risks and Uncertainties Under NEPA*, 1 MICH. J. ENVTL. & ADMIN. L. 88, 106-07 (2012). He calls the “reasonable person” standard ““notoriously opaque.” *Id.* at 106.

28

These factors are:

With what confidence can one say that the impacts are likely to occur? Can one describe them “now” with sufficient specificity to make their consideration useful? If the decisionmaker does not take them into account ““now,” will the decisionmaker be able to take account of them before the agency is so firmly committed to the project that further environmental knowledge, as a practical matter, will prove irrelevant to the government’s decision?

Id. at 768.

29

CEQ regulations provide three options for compliance with NEPA. It may not apply because a project is categorically excluded. 40 C.F.R. §1501.4 (2012) (agency may have procedures to determine whether a proposal does not require an EIS or EA). Categorical exclusions are defined in §15089.4 (category of actions that do not individually or cumulatively have a significant effect on human environment). An agency may do an EA to decide whether an EIS is required, which is a common choice, or it may do an EIS without doing an EA. §1508.9 (defining EA). A categorically excluded project should not require an analysis of indirect effects. A review of indirect effects should be part of an EA or EIS.

30

For a discussion of these reports, see AVIN ET AL., *supra* note 10, at 14-21.

31

Some of these reports also cover cumulative effects, which raise similar problems. A cumulative impact is “the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions.” 40 C.F.R. §1508.7 (2012). A typical example is a similar action in the same area as the proposed action. *E.g.*, *Grand Canyon Trust v. FAA*, 290 F.3d 339, 32 ELR 20677 (D.C. Cir. 2002) (agency planning replacement airport must consider noise effects on national park from other flights in area in addition to those from replacement airport). *See also* FEDERAL HIGHWAY ADMINISTRATION (FHWA), QUESTIONS AND ANSWERS REGARDING THE CONSIDERATION OF INDIRECT AND CUMULATIVE IMPACTS IN THE NEPA PROCESS 3 (2003), *available at* <http://www.environment.fhwa.dot.gov/projdev/qaimpact.asp> (explaining that a cumulative effect “includes the total effect on a natural resource, ecosystem, or human community due to past, present, and future activities or actions of Federal, non-Federal, public, and private entities.”) Cumulative effects present issues distinct from indirect effects, but there can be overlap. For a report discussing both, see ASSESSING INDIRECT EFFECTS, *supra* note 7.

32

They do not usually discuss the legal criteria that apply to the consideration of indirect effects. *But see* THE LOUIS BERGER GROUP, LEGAL SUFFICIENCY CRITERIA FOR ADEQUATE INDIRECT EFFECTS AND CUMULATIVE IMPACTS ANALYSIS AS RELATED TO NEPA

DOCUMENTS (AASHTO, 2008), available at http://onlinepubs.trb.org/onlinepubs/nchrp/docs/NCHRP25-25%2843%29_FR.pdf.

33 Avin et al., *supra* note 10, at 12.

34 For discussion of the link between highways and land development, see Terry Moore et al., *The Transportation/Land Use Connection*, American Planning Ass'n, Planning Advisory Serv. Rep. No. 646/547 (2007); PARSONS BRINKERHOFF QUADE & DOUGLAS, INC., *LAND USE IMPACTS OF TRANSPORTATION: A GUIDEBOOK* 12-18 (National Cooperative Highway Research Program, Report No. 423A, Transportation Research Bd., 1999), Eric Damian Kelly, *The Transportation Land-Use Link*, J. PLAN. LIT. 128 (1994).

35 ECONORTHWEST & PORTLAND STATE UNIV., *A GUIDEBOOK FOR EVALUATING THE INDIRECT LAND USE AND GROWTH IMPACTS OF HIGHWAY IMPROVEMENTS* 6 (Final Report SPR Project 327 for Oregon Department of Transportation & Federal Highway Administration, 2001), available at http://www.oregon.gov/odot/td/tp_res/docs/reports/aguidebookforusingindirland.pdf.

36 *Id.* at 5-6.

37 *Id.* at 5.

38 Indirect and Cumulative Impacts Work Group, Executive Order No. 13274: Indirect and Cumulative Impacts Work Group Draft Baseline Report 23 (U.S. Department of Transportation, 2005) [hereinafter Baseline Report].

39 Louis Berger & Associates, *Guidance for Estimating the Indirect Effects of Proposed Transportation Projects* 52 (National Cooperative Highway Research Program, Report No. 403, Transportation Research Bd., 1998) [hereinafter *Guidance for Estimating*]. “The broadness or narrowness which indirect effects are identified has been determined in certain cases by the relative strength or power of one agency compared with others, and by the stance of the federal agencies involved.”

40 *Id.* at 79; FHWA, *supra* note 31, at 5 (“purpose and need of a proposed project that includes a development or economic element might establish an indirect relationship to potential land use change or other action with subsequent environmental impacts”).

41 For discussion of this issue, see *GUIDANCE FOR ASSESSING INDIRECT AND CUMULATIVE IMPACTS OF TRANSPORTATION PROJECTS IN NORTH CAROLINA, VOLUME I: GUIDANCE POLICY REPORT III-8* (North Carolina Department of Transportation/Department of Environment and Natural Resources, 2001), available at

<https://connect.ncdot.gov/resources/Environmental/Compliance%20Guides%20and%20Procedures/Volume%2001%20Assessment%20Guidance%20Policy%20Report.pdf> [hereinafter GUIDANCE FOR ASSESSING]. “Economic development (from induced growth) is often cited as justification for proposed transportation projects. Indeed, certain programs, e.g., ‘development highways,’ are authorized by legislation with economic development as their intent.” *See also* DESK REFERENCE, *supra* note 3, at 30 (must consider indirect effects when proposed transportation improvements planned to support area’s economic development goals); FHWA, *supra* note 31, at 5 (must consider growth-induced land development if purpose and need includes economic or development element).

42 ASSESSING INDIRECT EFFECTS, *supra* note 7, at 7 (indirect effects analysis less likely if these effects not present). *See also* FHWA, *supra* note 31, at 5 (new alignment or access); CALTRANS, *supra* note 24, at 5-4 (discussing accessibility factor in deciding whether indirect effects of project must be analyzed). *See also* STEVEN LANDAU ET AL., LONG-TERM ECONOMIC DEVELOPMENT IMPACTS OF HIGHWAY PROJECTS: FINDINGS FROM A NATIONAL DATABASE OF PRE/POST CASE STUDIES 7 (2011), available at <http://edrgroup.com/attachments/article/372/Local-Economic-Impacts-of-Highway-Projects.pdf> (about 54% of projects in rural areas were for tourism, and about 22% of projects in metro/mixed areas were for also for tourism, while other projects were proposed for site access).

43 DESK REFERENCE, *supra* note 3, at 29. It is also possible that radial facilities may have more land use effects than circumferential ones.

44 Megan Stanley, Indirect and Cumulative Impact Analysis 22 (NCHRP Project 25-25, Task 11, 2006), available at http://onlinepubs.trb.org/onlinepubs/archive/NotesDocs/25-25%2811%29_FR.pdf. *See also* AVIN ET AL., *supra* note 10, at 30, noting that it is important to net out the negative effects that other sources of induced travel may have on accessibility, such as mode shifts and peak contractions.

45 Stanley, *supra* note 44, at 22. *See* Trout Unlimited v. Morton, 509 F.2d 1276, 5 ELR 20151 (9th Cir. 1974) (second home development a remote possibility of dam and reservoir project; surrounding area a highly developed agricultural area with only a few small towns).

46 GUIDANCE FOR ASSESSING, *supra* note 41, at III-28. *See also* DESK REFERENCE, *supra* note 3, at 58-59.

47 AVIN ET AL., *supra* note 10, at 61.

48 *Id.*

49 GUIDANCE FOR ASSESSING, *supra* note 41, at III-10.

50 Baseline Report, *supra* note 38, at 22. *See also* ASSESSING INDIRECT EFFECTS, *supra* note 7, at 7 (though comprehensive plan has growth policy, project can be necessary condition for planned growth, as when new interchange is constructed to serve master-planned development).

51 AVIN ET AL., *supra* note 10, at 59, points out that predicting a potential for land use change in a study area is necessarily subjective, but argues that making this assessment is necessary. Analysis may be needed before a facility is built in anticipation of its added accessibility. The division between a prescreening phase, and a forecasting phase in which the magnitude and character of indirect effects is forecast, is not always sharp, however. Indirect effects may not be detected in prescreening, but become apparent later in the forecasting stage. E-mail from Uri Avin to the author, Mar. 27, 2013.

52 *See, e.g.*, CALTRANS, *supra* note 24, at 5-2 to 5-4 (accessibility, project type, project location, and growth pressures in the area); AVIN ET AL., *supra* note 10, at 32 (change in accessibility, the market strength of the study area, and development-related policies such as current plans and zoning and key utilities availability).

53 MANDELKER, *supra* note 3, at §10:45.

54 For a discussion of the matrix method, see MANDELKER, *supra* note 3, at §10:4.

55 ECO Northwest, at 35, as explained in AVIN ET AL., *supra* note 10, at 57-59. For additional guidance on this issue, see Guidance for Assessing Indirect and Cumulative Impacts of Transportation Projects in North Carolina, Volume II: Practitioner's Handbook, Section II: Pre-Screening Projects for Applying Indirect/Cumulative Impact Assessment (North Carolina Department of Transportation/Department of Environment and Natural Resources, 2001), *available at* <https://connect.ncdot.gov/resources/Environmental/Compliance%20Guides%20and%20Procedures/Prescreening%20Projects%20for%20Applying%20Impact%20Assessments.pdf> [hereinafter Prescreening], which provides detailed guidance on the prescreening process. It recommends a decision tree that considers the function of the facility; changes in accessibility, population, and employment trends; and the rate and path of urbanization. It also includes a matrix that provides a number of guidelines for deciding when an analysis of indirect effects is required. *Id.* at 10.

56 The other factors included in the matrix are change in property value; forecasted growth; availability of non-transportation services; and other factors that impact the market for development, such as local planning documents and interviews with developers and brokers; and public policy.

57 "If all other measures are 'strong' and the accessibility measure is 'weak,' the indirect land-use impacts are likely to be less." Table 3 note, AVIN ET AL., *supra* note 10, at 60.

- ⁵⁸ *But see* Susan Reynolds, *The Judicial Role in Intergovernmental Land Use Disputes: The Case Against Balancing*, 71 MINN. L. REV. 611 (1987) (criticizing the use of a balancing test to decide priorities in intergovernmental zoning conflicts). Prof. Susan Reynolds argues that the balancing test “discourages compromise and increases litigation, involves the court in the original land use decision, does not sufficiently protect the host government and is an inadequate rule because ‘[i]t is not for courts ... to pick and choose between valid public purposes.’” *Id.* at 641.
- ⁵⁹ Agencies must also select a study area within which they decide to do an analysis of cumulative effects, and there is substantial case law on this problem. MANDELKER, *supra* note 3, at §10:42.1.
- ⁶⁰ FHwA, *supra* note 31, at 9. *See also* GUIDANCE FOR ASSESSING, *supra* note 41, at III-8 (limits may be defined by the area over which the project could influence travel costs or travel patterns); ECONORTHWEST, *supra* note 35, at 17 (study area is function of travel time and miles, usually one-half mile around improvement); Baseline Report, *supra* note 38, at 26 (transportation officials take a narrow view, resource agencies take a broad view on this issue); Elise M. Bright, *Secondary Impacts of Airports: An Assessment of Planning Procedures*, 36 TRANSP. Q. 75, 75-76 (1982) (“A definition based solely on noise contours or jurisdictional boundaries is usually inadequate because it does not include areas impacted by such factors as ground transportation and land use changes”; six rules for defining boundaries suggested).
- ⁶¹ DESK REFERENCE, *supra* note 3, at 32-35 (and can combine study area tools). *See also* CALTRANS, *supra* note 24, at 5-8 (political boundaries, commute shed, and growth boundaries); Guidance for Estimating, *supra* note 39, at 53 (consistent agreement that delineation of spatial boundaries be situation-specific, and consider resources such as geographic, topographic, and settlement patterns; arbitrary defined radius discouraged).
- ⁶² Guidance for Estimating, *supra* note 39, at 53 (five to 50 years, five to 10 years frequently mentioned in interviews). *See also* DESK REFERENCE, *supra* note 3, at 34 (20-25 years).
- ⁶³ A somewhat different problem is presented when a government agency is responsible for growth-induced land development after a highway or other project is built, because a government agency controls the development and can decide whether and when to proceed. Two U.S. Court of Appeals for the Fifth Circuit cases relied on “reasonable prudence” and proximate cause rules to hold that a government channel project would not cause the government to deepen the channel, *City of Shoreacres v. Waterworth*, 420 F.3d 440 (5th Cir. 2005), and that it was highly speculative that the establishment of a public wildlife refuge would prevent the construction of a public water reservoir that might avoid future water shortages. There was no commitment to constructing the reservoir. *City of Dallas v. Hall*, 562 F.3d 712, 39 ELR 20062 (5th Cir. 2009), *cert. denied sub nom.* *City of Dallas v. Gould*, 130 S. Ct. 1499 (2010). Both cases quoted language from *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 355, 19 ELR 20743 (1989) (upholding revision of CEQ’s worst-case regulation), that “[r]easonable foreseeability’ does not include “highly speculative

harms' that 'distort[] the decisionmaking process' by emphasizing consequences beyond those of 'greatest concern to the public and of greatest relevance to the agency's decision.'" See, e.g., *City of Dallas*, at 719. See also *Airport Impact Relief, Inc. v. Wykle*, 192 F.3d 197, 30 ELR 20109 (1st Cir. 1999) (expansion of public airport because of road relocation contingent on several events that might or might not occur over an eight-year span, including acquisition of permits, arrangement of funding, drafting of expansion plans, and other contingencies; quoted reasonable foreseeability test); *Presidio Golf Club v. National Park Serv.*, 155 F.3d 1153, 29 ELR 20219 (9th Cir. 1998) (new clubhouse for golf course owned by National Park Service not expected to have competitive effect on existing clubhouse on golf course, citing *Sierra Club* and *PANE*).

⁶⁴ Many of these cases were decided before *Sierra Club* and *Public Citizen*, and so did not apply the causation and foreseeability tests these cases adopted. Many also did not consider the causation and "reasonably foreseeable" requirements in the CEQ regulation.

⁶⁵ Grants for airport improvements can be made by the Federal Aviation Agency (FAA) to airport authorities under the Airports Improvement Program. See *Airport Improvement Program (AIP) Handbook--Order 5100.38C*, available at http://www.faa.gov/airports/aip/aip_handbook/. FAA and local airport authorities do not control land development around airports that is not related to the protection of airspace. See Timothy R. Wyatt, *Balancing Airport Capacity Requirements With Environmental Concerns: Legal Challenges to Airport Expansion*, 76 J. AIR L. & COM. 733 (2011).

⁶⁶ *State of California v. United States Dept. of Transp.*, 260 F. Supp. 2d 969 (N.D. Cal. 2003).

⁶⁷ See 33 U.S.C. §1344 (2006).

⁶⁸ *Florida Wildlife Fed'n v. United States Army Corps of Eng'rs*, 401 F. Supp. 2d 1298 (D. Fla. 2005) (*Public Citizen* distinguished because the Corps had discretion to prevent or manage indirect effects of its permit on the land at issue; record irrefutably showed development not intended to serve existing need, but as catalyst for growth). The website for this project is at <http://www.scripps.edu/florida/>.

⁶⁹ *Sierra Club v. Marsh (I)*, 769 F.2d 868, 15 ELR 20911 (1st Cir. 1985) (per Breyer, J.; must consider growth-inducing effects of port and causeway in Maine; development of industrial park obvious and precise; documents proved detailed descriptions of likely future development including plot plan of proposed industrial park); *Western Land Exch. Project v. United States Bureau of Land Mgt.*, 315 F. Supp. 2d 1068 (D. Nev. 2004) (sale of federal land under federal act; impacts actually intended; aggressive development of land assumed and purpose of project was to accommodate orderly expansion of a city); *Friends of the Earth, Inc. v. United States Army Corps of Eng'rs*, 109 F. Supp. 2d 30, 31 ELR 20075 (D.D.C. 2000) (dredge and fill permit, three new casinos on Mississippi coast; evidence in case, including statements by agency and developers, showed that "increased growth in the area is the only reasonable prediction of what will occur if the casinos are

built”; Corps leadership acknowledged increased development possibility raised by other agencies; indirect impacts need only be reasonably foreseeable).

See also South Fork Band Council of W. Shoshone v. United States Dep’t of Interior, 588 F.3d 718, 39 ELR 20276 (9th Cir. 2009) (air quality impacts associated with transport and off-site processing of five million tons of refractory ore are prime examples of indirect effects that NEPA requires be considered); Mid States Coalition for Progress v. Surface Transp. Bd., 345 F.3d 520 (8th Cir. 2003) (must consider decline in air quality from greater availability of low-sulfur coal for power generation through rail line, noting CEQ regulation for considering environmental effects where information incomplete or unavailable), *analysis affirmed on appeal from remand sub nom.* Mayo Found. v. Surface Transp. Bd., 472 F.3d 545 (8th Cir. 2006). *See* County of Josephine v. Watt, 539 F. Supp. 696, 12 ELR 21079 (N.D. Cal. 1982) (designation of scenic rivers claimed to induce increase in timber production in another state because timber production would be reduced in state where rivers were located; case remanded for trial on this point).

70 Pennsylvania Protect Our Water & Env’tl. Res. v. Appalachian Reg’l Comm’n, 574 F. Supp. 1203 (M.D. Pa. 1982) (housing development that might have been caused by construction of multi-season recreation area, civic arena, motor inn complex, and access road too remote and speculative; master plan for extensive project abandoned; foreseeable development not immediate goal of project), *aff’d without opinion*, Borough of Moosic v. Appalachian Reg’l Comm’n, 720 F.2d 659 (3d Cir. 1983). Some of these cases were decided under earlier CEQ guidelines before CEQ adopted its final 1978 NEPA regulations: Trout Unlimited v. Morton, 509 F.2d 1276, 5 ELR 20151 (9th Cir. 1974) (second home development a remote possibility of dam and reservoir project; surrounding area highly developed as agricultural area with only a few small towns); Environmental Def. Fund, Inc. v. United States Army Corps of Eng’rs, 492 F.2d 1123, 4 ELR 20329 (5th Cir. 1974) (lack of proof that in-migration with significant adverse environmental effect might be induced by waterway); Life of the Land v. Brinegar, 485 F.2d 460, 3 ELR 20811 (9th Cir. 1973) (increase in tourism induced by new runway at Hawaii airport would not lead to increase in permanent population that would affect quality of life), *cert. denied*, 416 U.S. 961 (1974); Coalition for Lower Beaufort County v. Alexander, 434 F. Supp. 293, 7 ELR 20800 (D.D.C. 1977) (industrial development that might be induced by construction of pier held remote and speculative), *aff’d mem.*, 584 F.2d 558 (D.C. Cir. 1978). *See also* Township of Parsippany-Troy Hills v. Costle, 503 F. Supp. 314, 11 ELR 20344 (D.N.J. 1979), *aff’d mem.*, 639 F.2d 776 (3d Cir. 1980) (no significant impact when population growth of 12% induced by wastewater treatment plant was to be spread over five to seven years).

71 Pennsylvania Protect Our Water & Env’tl. Res. v. Appalachian Reg’l Comm’n, 574 F. Supp. 1203 (M.D. Pa. 1982) (housing development that might have been caused by construction of a multi-season recreation area, civic arena, motor inn complex, and access road too remote and speculative).

72 Extensive guidance on growth-induced land development caused by airport projects is not available. *But see* Elise M. Bright, *Secondary Impacts of Airports: An Assessment of Planning Procedures*, 36 TRANSP. Q. 75 (1982) (discussing difficulty of defining airport-impacted area; forecasting indirect effects an inexact science). For a case study of a land development plan for a regional airport that considered indirect effects, see Guidance for Estimating, *supra* note 39, at 175. For other guidance on the economic impact of airports that does not discuss indirect effects, see Airport Economic

Impact: Methods and Models (Airport Cooperative Research Program Synthesis 7, Transportation Research Bd., 2008), *available at* [http:// onlinepubs.trb.org/onlinepubs/acrp/acrp_syn_007.pdf](http://onlinepubs.trb.org/onlinepubs/acrp/acrp_syn_007.pdf); Federal Aviation Admin., National Environmental Policy Act (NEPA) Instructions for Airport Projects, Order 50504B (2006), *available at* http://www.faa.gov/airports/resources/publications/orders/environmental_5050_4/.

⁷³ Morongo Band of Mission Indians v. Federal Aviation Admin., 161 F.3d 569, 29 ELR 20336 (9th Cir. 1998) (FAA proposed to move an existing airline arrival route into the Los Angeles International Airport for greater efficiency and safety); Seattle Cmty. Council Fed'n v. Federal Aviation Admin., 961 F.2d 829 (9th Cir. 1992) (change in airport flight patterns). *See also* County of Rockland v. Federal Aviation Admin., 335 Fed. Appx. 52 (D.C. Cir. 2009) (approving forecast of future traffic that did not consider growth-inducing effects of flight delay from airport redesign that increased throughput), *cert. denied*, 558 U.S. 1149 (2010). *Compare* Barnes v. United States Dept. of Transp., 655 F.3d 1124, 41 ELR 20279 (9th Cir. 2011) (ground expansion by a new runway would cause development).

⁷⁴ Georgia River Network v. U.S. Army Corps of Eng'rs, 334 F. Supp. 2d 1329 EA (N.D. Ga. 2003). *See also accord* Georgia River Network v. United States Army Corps of Eng'rs, 2012 U.S. Dist. LEXIS 37012 (S.D. Ga. Mar. 19, 2012) (fishing lake, local and federal regulation), *aff'd on other grounds*, 2013 U.S. App. LEXIS 7867 (11th Cir. Ga. Apr. 19, 2013); Sierra Club v. Cavanaugh, 447 F. Supp. 427, 8 ELR 20472 (D.S.D. 1978) (rural water system, local zoning).

⁷⁵ The court was referring to the federal Clean Water Act, which requires a permit for “the discharge of dredged or fill material into the navigable waters at specified disposal sites.” 33 U.S.C. §1344 (2006).

⁷⁶ 521 F.2d 661, 5 ELR 20633 (9th Cir. 1975).

⁷⁷ The court also applied a “reasonableness” standard of judicial review that some courts used at that time. *Id.* at 672. The Supreme Court has since replaced it with a less rigorous “arbitrary and capricious” standard of judicial review, MANDELKER, *supra* note 3, at §8:6, but the use of the reasonableness standard should not affect the relevance of the case.

⁷⁸ This finding was made in a Negative Declaration, the equivalent at that time of an EA.

⁷⁹ *City of Davis*, 521 F.2d 677.

⁸⁰ *Id.* at 675. It also said that “with growth will come growth’s problems: increased population, increased traffic, increased pollution, and increased demand for services such as utilities, education, police and fire protection, and recreational facilities,” and that “it is obvious constructing a large interchange on a major interstate highway in an agricultural area where no connecting road currently

exists will have a substantial impact on a number of environmental factors.” *Id.* at 674-75.

81 *Id.* at 676. The court added “[t]hat the exact type of development is not known is not an excuse for failing to file an impact statement at all.”

82 *Id.*

83 *Davis v. Mineta*, 302 F.3d 1104, 32 ELR 20727 (10th Cir. 2002) (interchange, expansion and extension of highway, bridge; EPA commented that “enhanced transportation facilities will generate or enhance economic activity and development”); *Coalition for Canyon Pres. v. Bowers*, 632 F.2d 774, 11 ELR 20053 (9th Cir. 1980) (reconstruction of 28-foot to 88-foot highway leading to Glacier National Park, impact of reconstructed highway on towns that rely on tourism not discussed, “likely that this project will have major effects on the character of these towns”); *Highway J Citizens Group v. United States Dep’t of Transp.*, 656 F. Supp. 2d 868 (E.D. Wis. 2009) (expansion of highway from two to four lanes appears to be an event that would contribute to growth in the region), *reconsideration denied*, 2010 U.S. Dist. LEXIS 27297 (E.D. Wis. Mar. 23, 2010); *Conservation Law Found. v. Federal Highway Admin.*, 630 F. Supp. 2d 183 (D.N.H. 2007) (addition of four lanes to interstate highway in each direction, agency was not free to ignore Delphi Panel’s forecast of induced growth); *North Carolina Alliance for Transp. Reform, Inc. v. United States Dep’t of Transp.*, 151 F. Supp. 2d 661 (M.D.N.C. 2001) (beltway with interchanges, growth-inducing potential admitted, denial of effect on future growth “contradicts common sense”); *Mullin v. Skinner*, 756 F. Supp. 904 (E.D.N.C. 1990) (as in *City of Davis*, obvious that construction of high-rise, fixed-span bridge to barrier island will bring development; rejected argument that it was the zoning that would bring development); *Joseph v. Adams*, 467 F. Supp. 141, 9 ELR 20468 (E.D. Mich. 1978) (extension of five-lane highway; as in *City of Davis*, encouragement of growth was the primary purpose of the highway); *Rankin v. Coleman*, 394 F. Supp. 647, 657, 5 ELR 20626 (E.D.N.C. 1975) (improvement of highway on barrier island would have secondary effect of increased development), *modified on other grounds*, 401 F. Supp. 664 (E.D.N.C. 1975); *Lathan v. Volpe*, 350 F. Supp. 262, 2 ELR 20545 (W.D. Wash. 1972) (failure to consider long-term effects of interstate highway on land use and population distribution in the metropolitan areas), *aff’d on this ground*, 4 ELR 20083 (9th Cir. 1973), *aff’d in part and vacated in part on other grounds*, *Lathan v. Brinegar*, 506 F.2d 677, 4 ELR 20802 (9th Cir. 1974), *appeal on remand*, *Adler v. Lewis*, 675 F.2d 1085, 12 ELR 20674 (9th Cir. 1982).

84 756 F. Supp. 904 (E.D.N.C. 1990).

85 *Id.* at 921.

86 *Florida Wildlife Fed’n v. Goldschmidt*, 506 F. Supp. 350, 13 ELR 20703 (S.D. Fla. 1981) (interstate highway). *Accord Gloucester County Concerned Citizens v. Goldschmidt*, 533 F. Supp. 1222, 12 ELR 20721 (D.N.J. 1982) (four-lane highway, secondary development would occur even though highway not built).

- ⁸⁷ Utahns for Better Transp. v. United States Dep't of Transp., 305 F.3d 1152 (2002); City of Carmel-by-the-Sea v. United States Dep't of Transp., 123 F.3d 1142, 27 ELR 21428 (9th Cir. 1997); Laguna Greenbelt v. United States Dep't of Transp., 42 F.3d 517, 25 ELR 20349 (9th Cir. 1994) (toll road, though admission it would affect rate and pattern of growth); Northwest Bypass Group v. United States Army Corps of Eng'rs, 470 F. Supp. 2d 30, 37 ELR 20013 (D.N.H. 2007); Piedmont Env'tl. Council v. United States Dep't of Transp., 159 F. Supp. 2d 260 (W.D. Va. 2001) (and distinguishing *City of Davis* because termini of bypass located in already developed areas, and absence of interchanges between the two termini would likely not contribute to growth in less developed areas; highways only one factor affecting development plans), *aff'd & remanded on other grounds*, 58 Fed. Appx. 20 (4th Cir. 2003). In other cases, the area affected by the highway was not available for development because it was not developable or was subject to restriction. *Northwest Bypass Group, supra* (affected area in wetlands or covered by conservation easement); *Piedmont Env'tl. Council, supra* (affected area in state ownership or covered by conservation easements).
- ⁸⁸ *City of Carmel-by-the-Sea*, 123 F.3d 1142.
- ⁸⁹ Wilds v. Slater, 2000 U.S. Dist. LEXIS 20771 (D.S.C. Mar. 7, 2000) (growth expected to occur with or without completion of project).
- ⁹⁰ *Northwest Bypass Group*, 470 F. Supp. 2d 30. *Accord Gloucester County Concerned Citizens*, 533 F. Supp. 1222 (highway would serve a specified area).
- ⁹¹ Georgia River Network v. U.S. Army Corps of Eng'rs, 334 F. Supp. 2d 1329 (N.D. Ga. 2003). *See also* Town of Orangetown v. Gorsuch, 718 F.2d 29, 14 ELR 20049 (2d Cir. 1983) (EPA regulation, sewerage plant built to serve existing need), *cert. denied sub nom.* Town of Orangetown v. Ruckelshaus, 465 U.S. 1099 (1984); Hoosier Env'tl. Council, Inc. v. United States Army Corps of Eng'rs, 105 F. Supp. 2d 953, 30 ELR 20786 (S.D. Ind. 2000) (riverboat casino, purpose was to provide attractive resort destination, no evidence of proposed secondary commercial development in area); Sierra Club v. Cavanaugh, 447 F. Supp. 427, 8 ELR 20472 (D.S.D. 1978) (rural water system purposely limited in capacity to serve only present population and reasonably foreseeable growth needs of service area). *See also* Pennsylvania Protect Our Water & Env'tl. Res. v. Appalachian Reg'l Comm'n, 574 F. Supp. 1203 (M.D. Pa. 1982) (foreseeable development not immediate goal of recreation project), *aff'd without opinion*, Borough of Moosic v. Appalachian Regional Comm'n, 720 F.2d 659 (3d Cir. 1983). *Hoosier Env'tl. Council* contains an extensive discussion of the indirect effects problem.
- ⁹² 40 C.F.R. §1502.13 (2012) ("The statement shall briefly specify the underlying purpose and need to which the agency is responding in proposing the alternatives including the proposed action."). A similar provision for EAs states that an EA "[s]hall include brief discussions of the need for the proposal." *Id.* at §1508.9(b). *See* MANDELKER, *supra* note 3, at §9:23.

- ⁹³ See, e.g., *Habitat Educ. Ctr., Inc. v. United States Forest Serv.*, 593 F. Supp. 2d 1019, 1026-27 (E.D. Wis. 2009), *aff'd on other grounds*, 609 F.3d 897, 40 ELR 20145 (7th Cir. 2010).
- ⁹⁴ Mandelker, *supra* note 3, at §9:23.
- ⁹⁵ As the Ninth Circuit stated in *Barnes v. United States Dep't of Transp.*, 655 F.3d 1124, 1139, 41 ELR 20279 (9th Cir. 2011), an analysis “which focuses inflexibly on the stated purpose of a project while ignoring its growth inducing effect--is completely inadequate for cases involving the construction of additional runways. For such cases, a case-by-case approach is needed.”
- ⁹⁶ Mandelker, *supra* note 3, at §10:40.1. See, e.g., *Sierra Club v. United States DOT*, 310 F. Supp. 2d 1168 (D. Nev. 2004) (FHWA could rely on forecasts and modeling efforts of a metropolitan planning organization responsible for developing area transportation plans and programs to justify population and traffic forecasts).
- ⁹⁷ See, e.g., *Sierra Club North Star Chapter v. LaHood*, 693 F. Supp. 2d 958 (D. Minn. 2010) (four-lane bridge, upholding agency discussion of indirect effects in part because of reliance on local land use plans and planners).
- ⁹⁸ *City of Carmel-by-the-Sea v. United States Dep't of Transp.*, 123 F.3d 1142, 27 ELR 21428 (9th Cir. 1997). See also *accord* *Citizens for Smart Growth v. Secretary of Dept. of Transp.*, 669 F.3d 1203, 42 ELR 20034 (11th Cir. 2012) (bridge; other commercial uses in study area already planned or developed); *Utahns for Better Transp. v. United States Dep't of Transp.*, 305 F.3d 1152 (2002) (parkway; consultation with local planners, though impact statement admitted that project would make development come sooner).
- ⁹⁹ See *supra* notes 47-50 and accompanying text. A section of the federal highway act integrates state and regional transportation planning with environmental reviews. 23 U.S.C. §168 (West Supp. 2013). The statute provides that “the Federal lead agency for a project may adopt and use a planning product in proceedings relating to any class of action in the environmental review process of the project.” *Id.* at §168(b)(1). A planning product is defined to include a state or regional transportation plan. *Id.* at §168(a) (2). The statute details a process for integrating planning documents. *Id.* at §168(d). The statute authorizes the adoption of planning decisions and planning analyses, including an analysis of “local land use, growth management, and development.” *Id.* at §168(c). These plans are prepared at the state and regional level, and must be approved by the federal agency.
- ¹⁰⁰ *Laguna Greenbelt v. United States Dep't of Transp.*, 42 F.3d 517, 526, 25 ELR 20349 (9th Cir. 1994) (toll road; impact statement “admits that the corridor may affect the rate, if not the amount and pattern, of growth in Orange County by permitting development to proceed more quickly”).
- ¹⁰¹ *Highway J Citizens Group v. United States Dep't of Transp.*, 656 F. Supp. 2d 868 (E.D. Wis. 2009),

reconsideration denied, 2010 U.S. Dist. LEXIS 27297 (E.D. Wis. Mar. 23, 2010).

¹⁰² 40 C.F.R. §1502.16(c). The regulation does not allow agencies to reject state and local plans that are unacceptable or unreliable, but courts should have this authority.

¹⁰³ *Id.* at §1506.2(d).

¹⁰⁴ *Piedmont Env'tl. Council v. United States Dep't of Transp.*, 159 F. Supp. 2d 260 (W.D. Va. 2001), *aff'd & remanded on other grounds*, 58 Fed. Appx. 20 (4th Cir. 2003).

¹⁰⁵ *Groton v. Laird*, 353 F. Supp. 344, 350, 3 ELR 20316 (D. Conn. 1972). *Compare* *Maryland-National Capital Park & Planning Com. v. United States Postal Service*, 487 F.2d 1029, 3 ELR 20702 (D.C. Cir. 1973) (compliance with local zoning regulation is evidence that environmental effects of project are not significant). *See* MANDELKER, *supra* note 3, at §8:55.

¹⁰⁶ MANDELKER, *supra* note 3, at §10:44. *See, e.g., Prince George's County v. Holloway*, 404 F. Supp. 1181, 6 ELR 20109 (D.D.C. 1975) (impact statement for relocation of military facility held inadequate because it did not discuss mitigation measures to alleviate housing shortage in area where facility would be located).

¹⁰⁷ *South Louisiana Env'tl. Council v. Sand*, 629 F.2d 1005, 1016-17 (5th Cir. 1980). The court noted that requiring procedures above and beyond what the statute requires was prohibited by two Supreme Court cases holding that NEPA does not impose substantive duties.

¹⁰⁸ CEQ should provide a guidance on this responsibility, as it has for other responsibilities agencies must assume under NEPA.

¹⁰⁹ MANDELKER, *supra* note 3, §10:45.