

**National Cooperative Highway Research Program**

**NCHRP Synthesis 197**

**Corridor Preservation**

**A Synthesis of Highway Practice**

**Transportation Research Board  
National Research Council**

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National Cooperative Highway Research Program

# Synthesis of Highway Practice 197

## Corridor Preservation

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Systematic, well-designed research provides the most effective approach to the solution of many problems facing highway administrators and engineers. Often, highway problems are of local interest and can best be studied by highway departments individually or in cooperation with their state universities and others. However, the accelerating growth of highway transportation develops increasingly complex problems of wide interest to highway authorities. These problems are best studied through a coordinated program of cooperative research.

In recognition of these needs, the highway administrators of the American Association of State Highway and Transportation Officials initiated in 1962 an objective national highway research program employing modern scientific techniques. This program is supported on a continuing basis by funds from participating member states of the Association and it receives the full cooperation and support of the Federal Highway Administration, United States Department of Transportation.

The Transportation Research Board of the National Research Council was requested by the Association to administer the research program because of the Board's recognized objectivity and understanding of modern research practices. The Board is uniquely suited for this purpose as it maintains an extensive committee structure from which authorities on any highway transportation subject may be drawn; it possesses avenues of communications and cooperation with federal, state, and local governmental agencies, universities, and industry; its relationship to the National Research Council is an insurance of objectivity; it maintains a full-time research correlation staff of specialists in highway transportation matters to bring the findings of research directly to those who are in a position to use them.

The program is developed on the basis of research needs identified by chief administrators of the highway and transportation departments and by committees of AASHTO. Each year, specific areas of research needs to be included in the program are proposed to the National Research Council and the Board by the American Association of State Highway and Transportation Officials. Research projects to fulfill these needs are defined by the Board, and qualified research agencies are selected from those that have submitted proposals. Administration and surveillance of research contracts are the responsibilities of the National Research Council and the Transportation Research Board.

The needs for highway research are many, and the National Cooperative Highway Research Program can make significant contributions to the solution of highway transportation problems of mutual concern to many responsible groups. The program, however, is intended to complement rather than to substitute for or duplicate other highway research programs.

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The members of the technical committee selected to monitor this project and to review this report were chosen for recognized scholarly competence and with due consideration for the balance of disciplines appropriate to the project. The opinions and conclusions expressed or implied are those of the research agency that performed the research, and, while they have been accepted as appropriate by the technical committee, they are not necessarily those of the Transportation Research Board, the National Research Council, the American Association of State Highway and Transportation Officials, or the Federal Highway Administration of the U.S. Department of Transportation.

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## **PREFACE**

A vast storehouse of information exists on nearly every subject of concern to highway administrators and engineers. Much of this information has resulted from both research and the successful application of solutions to the problems faced by practitioners in their daily work. Because previously there has been no systematic means for compiling such useful information and making it available to the entire highway community, the American Association of State Highway and Transportation Officials has, through the mechanism of the National Cooperative Highway Research Program, authorized the Transportation Research Board to undertake a continuing project to search out and synthesize useful knowledge from all available sources and to prepare documented reports on current practices in the subject areas of concern.

This synthesis series reports on various practices, making specific recommendations where appropriate but without the detailed directions usually found in handbooks or design manuals. Nonetheless, these documents can serve similar purposes, for each is a compendium of the best knowledge available on those measures found to be the most successful in resolving specific problems. The extent to which these reports are useful will be tempered by the user's knowledge and experience in the particular problem area.

## **FOREWORD**

*By Staff  
Transportation  
Research Board*

This synthesis will be of interest to transportation agency administrators, planners, attorneys, environmental officials, and engineers in federal, state, and local governments, as well as to citizens interested in corridor preservation. It is especially timely in view of the ISTEA provisions for corridor preservation, although the requirements and conditions are changing. This synthesis describes the state of the practice with respect to the experience and status of corridor preservation for highways in the United States. The report describes the many elements of the corridor preservation process, including project development, advance acquisition, fee-simple acquisitions, and other options, as well as environmental issues.

Administrators, engineers, and researchers are continually faced with highway problems on which much information exists, either in the form of reports or in terms of undocumented experience and practice. Unfortunately, this information often is scattered and unevaluated, and, as a consequence, in seeking solutions, full information on what has been learned about a problem frequently is not assembled. Costly research findings may go unused, valuable experience may be overlooked, and full consideration may not be given to available practices for solving or alleviating the problem. In an effort to correct this situation, a continuing NCHRP project, carried out by the Transportation Research Board as the research agency, has the objective of reporting on common highway problems and synthesizing available information. The synthesis reports from this endeavor constitute an NCHRP publication series in which various forms of relevant information are assembled into single, concise documents pertaining to specific highway problems or sets of closely related problems.

This report of the Transportation Research Board presents detailed information on

acquisition techniques such as exactions, subdivision control ordinances, transfer of development rights, purchase options, and access management. Detailed discussions of maps of reservation and legal issues, such as land use law, are also addressed. In addition, innovations in corridor preservation are highlighted and future research is suggested. This synthesis also contains several case examples that illustrate a range of practice.

To develop this synthesis in a comprehensive manner and to ensure inclusion of significant knowledge, the Board analyzed available information assembled from numerous sources, including a large number of state highway and transportation departments. A topic panel of experts in the subject area was established to guide the researcher in organizing and evaluating the collected data, and to review the final synthesis report.

This synthesis is an immediately useful document that records practices that were acceptable within the limitations of the knowledge available at the time of its preparation. As the processes of advancement continue, new knowledge can be expected to be added to that now at hand.

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The Principal Investigator responsible for the conduct of this synthesis was Sally D. Liff, Manager, Synthesis Studies. This synthesis was edited by Linda S. Mason.

Scott A. Sabol, Program Officer, National Cooperative Highway Research Program provided valuable assistance.

Information on current practice was provided by many highway and transportation agencies. Their cooperation and assistance were most helpful.



# CORRIDOR PRESERVATION

## SUMMARY

State transportation agencies have been confronted for many years with situations in which development and other competing uses have forced the relocation of proposed transportation projects into environmentally sensitive areas. Efforts to preserve corridors for transportation and public works facilities have been somewhat sporadic over the years. However, the transportation community of late has dealt aggressively with this issue.

The 1990 Report of the American Association of State and Highway Transportation Officials (AASHTO) Task Force On Corridor Preservation has undoubtedly influenced transportation agencies and increased the Federal Highway Administration's (FHWA) emphasis on the subject. This synthesis discusses the thrust of the AASHTO report. In addition, the 1991 enactment of the Intermodal Surface Transportation Efficiency Act (ISTEA) has elevated corridor preservation to national importance by integrating corridor preservation issues into the statewide planning process. The FHWA has also promoted the benefits of corridor preservation and is offering encouragement and the opportunity for innovation through training and sponsorship of pilot projects.

This synthesis identifies many of the benefits of corridor preservation as well as the many beneficiaries, including local government, the traveling public, businesses, and landowners. This synthesis also explores the frustrations and obstacles experienced by state transportation agencies, particularly as these problems relate to the traditional project development process and legal/regulatory constraints.

Specific corridor preservation tools currently available to state and local governments go beyond early, fee-simple acquisitions and voluntary agreements by owners not to develop. A variety of regulatory police-power controls exist, including access management techniques on the state level and subdivision control and development ordinances on the local level. The state may also acquire less than a fee-simple interest by purchasing development rights, options to purchase, and donations. In addition, states with appropriate enabling legislation may use the hybrid technique of filing an official map of reservation. This synthesis addresses these and other approaches.

Despite the availability of these tools and techniques, a cooperative, systematic approach is needed to develop appropriate policies and successful programs. As partners in this effort, the roles of the federal government, the states, the Metropolitan Planning Organizations (MPOs), and local governments are beginning to crystalize. Each role is distinct and important to the success of corridor preservation.

## CHAPTER ONE

## INTRODUCTION

## DEFINITION OF THE PROBLEM

State transportation agencies have long competed with developers and occasionally with other governmental entities for properties suited for their respective uses and needs. In many instances, before the transportation agency has begun the property acquisition process, developers have advanced their projects through the local approval process, thereby enhancing the value of the property, or have advanced to construction. Similarly, other governmental agencies have acquired properties for parks, airports, and many other public works projects that would otherwise be earmarked to meet the needs of a transportation agency.

This competition has often resulted in the loss of preferred transportation corridors to such development. When this loss occurs, a transportation agency must abandon its plans, relocate the proposed improvements with the possibility of adversely affecting environmentally sensitive areas that would otherwise have been avoided, or purchase the originally contemplated right-of-way at an increased cost with possible relocation/replacement implications. Moreover, possible delays in project development process may cause additional administrative expenses, increased construction costs resulting from inflation, and public deprivation of the benefits to be gained through the proposed transportation facility.

Accelerating the acquisition of key properties to prevent the loss of preferred corridors is often difficult because of regulatory constraints. Even when agencies can overcome such constraints, they face funding and other program priority issues. Local governments have been deterred from participating in the protection of future right-of-way needs, particularly through the exercise of police powers affecting the use of property, because of fears regarding regulatory taking issues.

To address the problems associated with the preservation of transportation corridors, the process of developing a transportation project and securing necessary approvals must be understood. The project development process has become increasingly more complicated over the years, particularly in terms of environmental analysis and compliance. For example, the National Environmental Policy Act (NEPA) (1) has had a major impact on the development of most federal-aid transportation projects and has added a considerable amount of time to the process before right-of-way acquisitions occur.

## OBJECTIVES

The objectives of this synthesis include the following:

- Identifying important corridor preservation issues,
- Summarizing ways states and local governments have dealt with these issues, and
- Relating corridor preservation issues to systems planning,

project development, and the right-of-way acquisition process.

## DEFINING THE CONCEPT AND PURPOSE OF CORRIDOR PRESERVATION

The term corridor has been defined in a transportation context as "a strip of land between two termini within which traffic, topography, environment and other characteristics are evaluated for transportation purposes" (Appendix A). To date, the most comprehensive studies on the subject of preserving corridors are the *Report of the AASHTO Task Force on Corridor Preservation* (July 1990) and a 1993 FHWA publication, *Corridor Preservation, Case Studies and Analysis of Factors in Decisionmaking*. In the Task Force Report, corridor preservation is defined as "a concept utilizing the coordinated application of various measures to obtain control of or otherwise protect the right-of-way for a planned transportation facility" (2, pp. 1-2). This definition can include the protection of a multitude of rights-of-way as well as efforts to protect the capacity of existing facilities through access management. The Task Force Report identifies the following goals of corridor preservation:

- To prevent inconsistent development,
- To minimize or avoid environmental, social, and economic impacts,
- To reduce displacement,
- To prevent the foreclosure of desirable location options,
- To allow for the orderly assessment of impacts,
- To permit orderly project development, and
- To reduce costs (2, pp. 1-2).

It can be inferred from these goals that corridor preservation is not simply a right-of-way issue. Rather, it is a concept that must be considered in both systems planning and project development. This issue is underscored by the Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991, which mandates that the state planning process consider "[p]reservation of rights-of-way for construction of future transportation projects . . . and identify those corridors for which action is most needed to prevent destruction or loss" (3, Sec. 1025 [a]).

The ISTEA also stresses that Metropolitan Planning Organizations (MPOs) must consider corridor preservation issues in the development of transportation plans and programs (3). MPOs are regional agencies responsible for the continuing, cooperative, and comprehensive (3C) transportation planning process in urbanized areas in accordance with federal law (4). Further recognizing the importance of corridor preservation, Congress has instructed the Secretary of Transportation, in consultation with the states, to submit a report within 2 years after the enactment of the ISTEA; this report will address strategies to prevent the loss of right-of-way

and the “desirability of creating a transportation right-of-way land bank to preserve vital corridors” (3, Sec. 1017 (c)).

In addition to the emphasis placed on corridor preservation by the ISTEA, compliance with current air quality mandates may be furthered by preserving corridors to assure that projects identified by the states in their Transportation Improvement Programs (TIPs) and State Implementation Plans (SIPs) are not abandoned due to competing land uses. The Clean Air Act Amendments of 1990, coupled with ISTEA, have far-reaching implications, not the least of which is a likely institutional reorientation among transportation agencies to respond to these legislative mandates. The traditional project development process and corridor preservation approaches

will be examined herein to highlight the need for such a reorientation to successfully achieve the goals outlined by the AASHTO Task Force.

## **METHODOLOGY**

This synthesis relies on completed and ongoing research, interviews with state and federal transportation officials and noted experts who have written papers on the topic, and reported legal cases in conjunction with applicable federal and state statutes and regulations.

## CHAPTER TWO

## TRADITIONAL RIGHT-OF-WAY ACQUISITION CONCEPTS

### THE PROJECT DEVELOPMENT PROCESS

Most federally aided highway projects proceed through four stages—systems planning, prioritization/programming, project development, and implementation. Many states follow a similar or simplified process for non-federal projects. Although this discussion is federally oriented, corridor preservation opportunities clearly exist under both federal and non-federal scenarios.

Transportation problems and prospective solutions are identified in the systems planning stage. Problems are assessed in the context of the overall transportation goals and objectives of the states and urban areas. The systems planning effort enables the state transportation agency to develop priority recommendations and program projects by creating a TIP. This is commonly referred to as the prioritization/programming stage, which is followed by the project development stage.

If certain solutions are clearly feasible and should be pursued, the state transportation agency will undertake preliminary engineering and begin the environmental process. If a clear-cut solution does not exist, feasibility studies may be conducted. A feasibility study typically begins the effort of scoping a project. Environmental processing must be accomplished thereafter.

With regard to environmental processing, a project may take one of three paths and is categorized as either a Class I, II, or III project (5) (see Figure 1) (5a). Class I projects require the preparation of an Environmental Impact Statement (EIS). Class II projects do not have a significant environmental effect and are therefore excluded from the required NEPA documentation. FHWA regulations establish categories of projects that typically require no further environmental documentation and refer to these Class II projects as categorical exclusions (CEs). Projects are categorized as Class III if the significance of their environmental impact is unclear. As a result, the state transportation agency is required to prepare an environmental assessment (EA) as the basis for determining whether an environmental impact statement is required.

Upon the issuance of a Record of Decision (Class I projects) or Finding of No Significant Impact (FONSI) (Class III projects), a project generally receives approval to proceed to design, which usually involves several phases, culminating in plans, specifications, and estimates (6). The design effort, the acquisition of right-of-way, and construction make up the implementation stage. Right-of-way plans are typically developed during an early design phase, then completed and submitted to FHWA for review and approval. Upon approval, right-of-way acquisitions begin and the project proceeds toward final design.

FHWA regulations require that the programming requirements set forth in 23 C.F.R. Part 630, Subpart A, be met and that concomitant authorizations be received before any right-of-way related activities begin for projects involving federal funding participation. A state transportation agency must specifically request authorization to proceed with project-wide right-of-way activities. In particular, it must stipulate that the environmental processing require-

ment contained at 23 C.F.R. Part 771 relative to EISs, FONSIIs, and public hearing transcripts and certifications has been met as a prerequisite to acquiring right-of-way (7). Limited hardship and protective purchases are exceptions and will be discussed later in this chapter.

The above summary of a typical project development process highlights some of the key considerations and the associated efforts that must be undertaken to acquire right-of-way. Major projects often take many years before reaching the right-of-way acquisition (implementation) stage and are vulnerable to private sector development during this process.

### ADVANCE ACQUISITIONS

Current federal acquisition regulations, promulgated prior to ISTEA, require NEPA compliance and community involvement before states receive authorization to commence full-scale property acquisitions. However, the regulations acknowledge that circumstances may warrant the purchase of limited right-of-way before these programming requirements are completed.

The provisions of 23 C.F.R. Section 712.204(d) allow a limited number of advance acquisitions to be undertaken by the state to alleviate hardship to property owners or to avoid increased acquisition costs and the limiting effect imminent development would have on available alternatives. Advance acquisitions represent the ultimate in preserving a corridor: decision making is controlled by the state (particularly if state funds are used), action can be taken relatively quickly, and the necessary property rights can be promptly acquired. However, this exception to the general property acquisition rules is not without its limitations.

First, advance acquisitions that qualify for federal funding must be "extraordinary" or "emergency situations." Federal participation may then only be available for a particular or limited number of parcels. Second, official notice to the public of the selection of a preferred location and the holding of a public hearing (or affording such an opportunity) are prerequisites to possible federal participation. Third, an advance acquisition cannot influence project decision making, particularly the consideration of alternatives (see 23 C.F.R. 771.113(a), Timing of Administration Activities). Fourth, state and federally funded advance acquisitions must comply with Title VI of the Civil Rights Act of 1970 and the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970.

This regulatory scheme is the direct result of a federal circuit court of appeals ruling in *National Wildlife Federation v. Snow*, 561 F.2d 227 (D.C. Cir. 1976). Before *Snow*, procedures were less restrictive and federal participation often routine. A March 1988 U.S. General Accounting Office (GAO) report acknowledged that federal procedures were "tightened" in response to *Snow*. The report concluded, based on statistics provided by FHWA for the

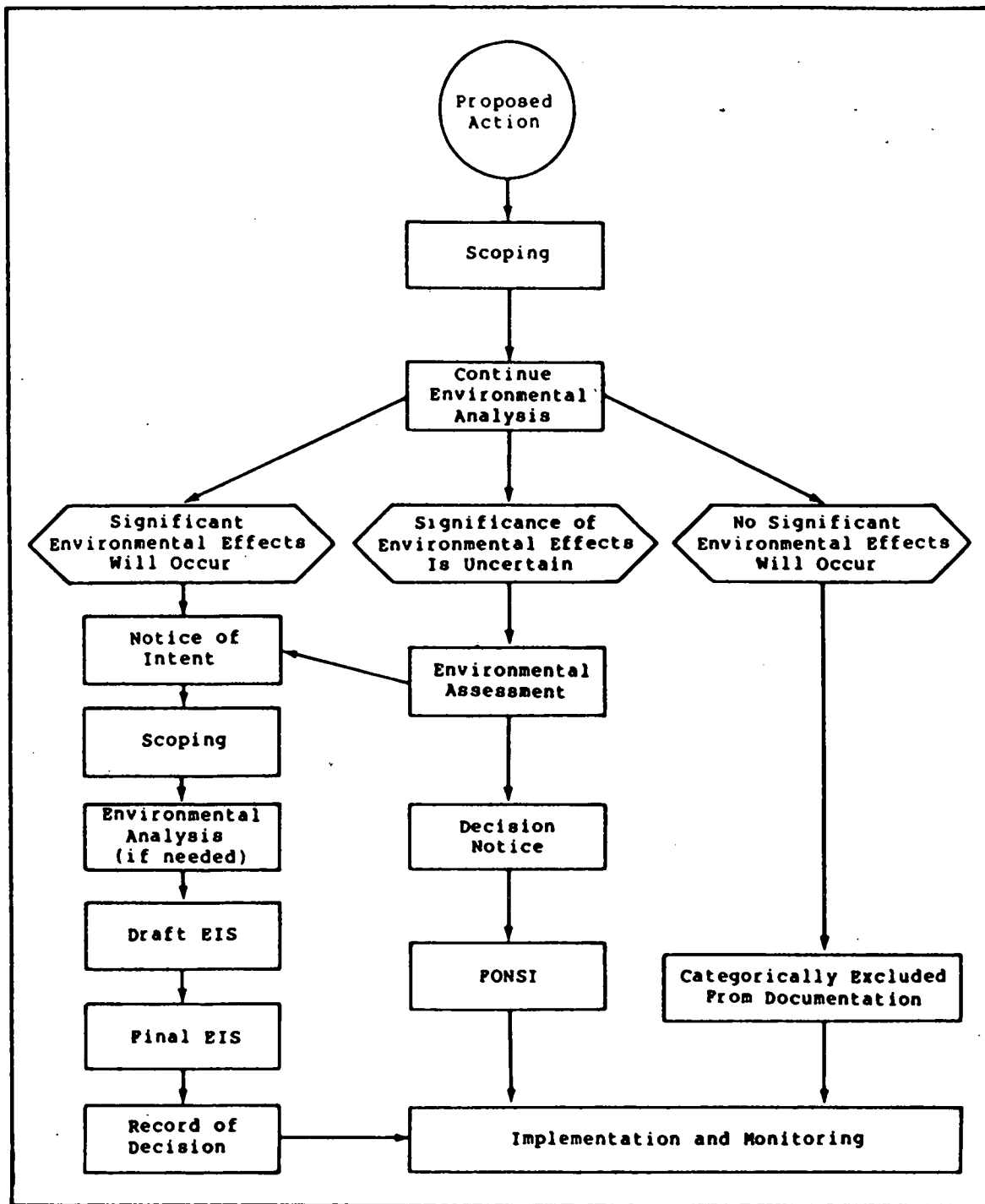


FIGURE 1 Environmental analysis, documentation, and implementation overview.

period 1984 to 1987, that "federally reimbursable advanced acquisition has been used infrequently in the states ... reviewed" (8).

Whether or not the passage of ISTEA will reverse this trend is unclear. Section 1017 does extend the payback period from 10 to 20 years for loans to states out of the federal "revolving fund." The revolving fund is a limited funding source available to the states for advance acquisition purposes. Though this provision is consistent with long-range concepts, its impact on the use of ad-

vance acquisitions as a corridor preservation tool is uncertain. Some fine-tuning of the existing regulatory scheme may be necessary to promote and simplify the use of this tool. The ISTEA affords this opportunity in Section 1017, which references "regulations to be issued by the Secretary" (3). To date, these regulations have not been issued. Table 1 summarizes the key federal and state requirements for advance acquisitions.

TABLE 1  
ADVANCE ACQUISITIONS FOR FEDERAL-AID PROJECTS

Federally Funded	State Funded
<ul style="list-style-type: none"> <li>• Extraordinary cases</li> <li>• Limited in number</li> <li>• Must follow either               <ul style="list-style-type: none"> <li>—announcement of preferred alternative or</li> <li>—public hearing or opportunity for public hearing</li> </ul> </li> <li>• Alleviate hardship</li> <li>• Prevent imminent development</li> </ul>	<ul style="list-style-type: none"> <li>• Title VI of Civil Rights Act</li> <li>• Uniform Relocation Assistance</li> <li>• Cannot acquire Section 4(f) property</li> <li>• Cannot influence project decisions</li> </ul>

## ENVIRONMENTAL ISSUES

The environmental process is the focus of attention in assessing corridor preservation capabilities. As stated earlier, typical right-of-way acquisitions cannot begin until FHWA has approved a final EIS, including a Record of Decision, FONSI, or CE. Advance acquisitions cannot be federally funded unless a preferred alternative has been selected or public hearings held, nor can acquisitions be undertaken with state funds unless the integrity of the alternatives analysis is assured (9). A closer look at environmental issues is therefore appropriate to aid in understanding corridor preservation concepts.

NEPA has precipitated major changes in the federal decision-making process (1). It mandates that federal agencies consider the environmental impacts of their actions in executing their programs. Congress required a detailed EIS for every major federal action significantly affecting the environment. What constitutes a "major federal action" has been the subject of considerable litigation and debate. For the purposes of this synthesis, it is enough to note that when required, an EIS must address the purpose and need for the project; its environmental impacts, including secondary and cumulative impacts, if any; and alternatives to the proposed action, including the no-build and reasonable-build alternatives (1,10).

In retrospect, NEPA revolutionized the manner in which agencies gather information; changed the complexion of the factual base of decision making; and generally led to changes in bureaucratic attitudes and procedures. The heart of NEPA's action-forcing provisions is arguably the integration of environmental factors into the federal decision-making process and the consideration of reasonable alternatives. The preparation of an environmental document not only assists the agency in making decisions, but also acts as a mechanism for disclosure of the results of this process and a means to obtain public and agency comments and participation.

The NEPA process and analogous state environmental impact review procedures also provide the framework to address, identify, or otherwise demonstrate compliance with numerous environmental laws, regulations, and permitting requirements that likely apply to a project. On the federal level, projects may be subject to the Clean Air Act, the Federal Water Pollution Control Act (Clean Water Act), the Endangered Species Act, the Historic Preservation Act, the Fish and Wildlife Coordination Act, the Safe Drinking Water Act, the Coastal Zone Management Act, Section 4(f) of the Department of Transportation Act of 1966, as amended, and other laws. The Council on Environmental Quality (CEQ) regulations require, to the extent possible, that these compliance efforts and

environmental review procedures run concurrently. (It should be noted that the CEQ functions will soon be handled by the Office of Environmental Policy (11).)

The timing of statement preparation is clearly relevant to corridor preservation. The CEQ regulations indicate that EISs should be prepared at the earliest possible time (12). Problems associated with early preparation focus on the definiteness of the project in terms of both scope and priority. The environmental process, particularly for projects requiring an EIS, can add several years to the life of a project. Concomitantly, technical sophistication and complex regulatory requirements have made it increasingly difficult to conclude environmental processing in a manner consistent with congressional intent. In fact, one source has characterized late preparation as a shortcoming of the NEPA process (13, p. 327).

Focusing only on the circulation and approval of the NEPA document as the sole element of NEPA compliance can similarly be characterized as a misapplication of the Act (2). This misdirected focus has caused some to oppose corridor preservation on environmental grounds and has led FHWA to preclude most forms of right-of-way acquisitions until after the document is approved. This timing issue is critical, because it often takes transportation agencies many years to obtain such approvals. The AASHTO Task Force On Corridor Preservation recognized the following:

[D]uring this time the cost of the right-of-way can increase dramatically due to inflation, development, and/or speculation and critical corridors can be lost due to development. Yet government has been reluctant to address the issue, partly because of a sense that many will oppose corridor preservation concepts on environmental grounds.

The AASHTO Task Force on Corridor Preservation has found that corridor preservation, in many instances will actually enhance environmental interests instead of inhibiting them. By keeping undeveloped corridors open, or preventing development from occurring too closely to existing facilities that are under consideration for expansion, State Transportation Agencies will not be forced into making decisions to construct in wetlands, parklands and other sensitive areas, or not building at all (2, p. 1-1).

It has become evident that the time consumed by the environmental process itself sometimes thwarts the intent of Congress to establish national policies and goals to protect and enhance our environment. Thus, the issue is whether the current process can be adapted to provide the means to protect corridors without compromising its integrity and the benefits otherwise derived from informed decision making.

The AASHTO Task Force suggested at least four approaches

to this problem—the development and use of rules pertaining to Categorical Exclusions, the use of planning information to document NEPA compliance for corridor preservation, the preparation

of NEPA documents during the planning process, and the use of tiered EISs (2). These approaches are discussed in Chapters Six and Seven.

## CHAPTER THREE

## FEE-SIMPLE ACQUISITIONS VERSUS OTHER TECHNIQUES

Aside from undertaking conventional right-of-way acquisitions and isolated advance purchases to protect transportation corridors, the government may acquire lesser rights to properties or, in certain instances, exercise its inherent police power through the reasonable regulation of land use and development. Government regulation for this particular purpose, however, has drawbacks and limitations including increased scrutiny by the courts and a lack of complete control by the transportation agency due to local involvement and home-rule principles. It is therefore imperative that local and state governments work together early in the planning stages.

## EXACTIONS

One accepted regulatory technique is the exaction of property or monetary payments in the form of a contribution from a developer or landowner in exchange for a land use approval or permit. In-kind contributions, either within the confines of the site or in the vicinity, must bear a nexus with the additional tax burden imposed on the community as a result of the additional services required by the development. If land is not available for dedication because of the size of the site or its physical and environmental constraints, monetary contributions may be made in lieu of an in-kind contribution (2, pp. 4-6 to 4-7). An impact fee is one type of monetary exaction. It is a charge against the developer representing a *pro rata* share of the cost of capital improvements or new infrastructure (e.g., roads, schools, etc.) necessitated by the development (14, pp. 23, 24, and 60).

## SUBDIVISION CONTROL ORDINANCES

Subdivision control ordinances authorize municipalities to approve the creation of lots and blocks in a manner that assures adequate infrastructure and reasonable access. The developer is usually required to construct internal roads. The developer may also be required to dedicate property for road widenings or other new roadways. This type of dedication is commonly referred to as a subdivision exaction. The ordinance may also require the subdivider to reserve (as opposed to dedicate) property for future roadway purposes. The distinction between a dedication and a reservation is that compensation must be paid for the reserved area at the time the property is acquired for the roadway project (15, pp. 3 and 16).

## DEVELOPMENT ORDINANCES

Local governing bodies possess broad powers to enact ordinances regulating land use. Zoning ordinances, for example, may limit certain uses to certain districts; regulate bulk, coverage, building setbacks, and other intensity-related issues; provide districts

for planned developments; allow for conditional uses; and establish mitigation standards relating to impacts such as transportation infrastructure, access, and parking. Site plan review ordinances typically ensure consistency of the development with zoning requirements and promote sound environmental planning. Development ordinances may also allow the discretion of local officials to require off-site improvements (14,16).

Development ordinances, exactions, impact fees, and other locally oriented tools to protect and promote public health, safety, and welfare have limitations when invoked for corridor preservation. The limitations are direct attributes of the transportation agency's lack of control in this area. For these tools to be effective, the state must receive full cooperation from the involved local governments. Even assuming local support for the project and a desire to assist the corridor preservation effort, municipalities may proceed with reluctance for fear of overreaching. Municipalities are mindful of their exposure to legal challenge by developers and property owners and generally are cautious to avoid activities that approach a "taking" without just compensation. Moreover, local government officials are likely to weigh other considerations such as the increase to the tax base that would result from development (2).

## THE TRANSFER OR PURCHASE OF DEVELOPMENT RIGHTS

Premised on the legal concept that ownership of property comprises several individual rights, the purchase or transfer of development rights has become an effective method of influencing land use (17, p. 3). The acquisition of a less-than-fee (entire) interest was originally proposed in the 1950s as a means of preserving open space. Purchasing a "conservation easement," particularly in a rural area, preserved open space at a cost far below the value of the fee, enabled owners to retain the fee interest and continue farming or conducting other nondevelopment uses on the property, and kept the property on the tax rolls (17, pp. 78-79). Similarly, preservation easements have been acquired to preserve historic landmarks and ecologically sensitive areas.

The transfer of development rights to other properties, or density transfers within the confines of a site or to other sites, are logical extensions of outright purchases of development easements. The concept was originally intended to preserve urban landmarks by enabling the owner to transfer "unused floor area" to contiguous properties (17, p. 129). In a corridor preservation context, such transfers could serve to protect a proposed corridor while assuring the developer a yield similar to that which would have been obtained had the proposed right-of-way been used. These techniques are therefore intended to maintain the status quo at a cost far below that of a fee-simple acquisition.



## OPTIONS TO PURCHASE

An option to purchase real property is a right, acquired for compensation, to purchase the property at a future date or within a given time period (18). For corridor preservation purposes, a state transportation agency may enter into a written agreement to obtain the right to exercise an option, provided that the owner does not develop the property during the life of the option. In a manner similar to acquiring development rights, the state transportation agency avoids fee ownership and maintenance responsibilities during the option period, the property remains on the tax rolls, and the owner may continue the property's current use (19, p. VI, 10 to 12).

## ACCESS MANAGEMENT

Many state and local governments are concerned not only about corridor preservation in the context of new alignments, but also about the need to protect the capacity of existing facilities. The concept of access management as a means to coordinate land development with transportation is relatively new (20, p. S-1). It has been defined as "providing (or managing) access to adjacent land development while simultaneously preserving the flow of traffic on the surrounding road system in terms of safety, capacity and speed" (20, pp. 1-11).

The National Cooperative Highway Research Program (NCHRP) has recently conducted a research study on this subject. The report is entitled *Access Management Guidelines for Activity Centers* (20). This report maintains that, without coordinated access management strategies, roadway systems will require constant upgrading and capital investment due to increased business activities and traffic. As roadways are improved, additional business activity is attracted, which creates the need for further improvements. The increased number of access and conflict points adversely affects the flow of traffic and compromises safety (20, pp. 1-19).

According to the NCHRP report, access management elements include the following:

1. Road systems are classified into a logical, functional hierarchy based on their areawide importance.
2. Roadway systems are planned, designed, and maintained based on criteria such as functional classification and road geometry.
3. Acceptable access for each class of roadway that does not degrade its function in the hierarchy is defined. This involves determining when and where access can be permitted and setting appropriate standards for the spacing of access points.
4. Appropriate geometric design criteria and traffic engineering analysis are applied to each allowable access.
5. Driveway permit procedures and regulations are used to ensure that decisions are reasonably enforceable and that the governmental agency can maintain control over roadway operation and design (20, pp. 1-12, 13).

The NCHRP research indicates that access management programs already exist in Colorado, Florida, Idaho, Minnesota, Nebraska, New Jersey, Oregon, Washington, and Wisconsin (20, Appendix B-1). Delaware is developing a capacity protection program in conjunction with its U.S. Route 113/SR-1 project, which is an FHWA corridor preservation pilot.

Oregon's Access Oregon Highways (AOH) program is the focal point of its corridor preservation efforts. This program requires a corridor plan for each designated AOH facility, with the preservation of through traffic service receiving priority over local circulation. The planning for each AOH facility is undertaken jointly by state and local government, culminating in a formal implementation agreement between the Oregon Department of Transportation and the local jurisdictional entities (19, p. VI-17).

The clear conclusion is that these nonacquisition alternatives are available and preferred. The success of these tools for corridor preservation is directly related to the extent of cooperation and commonality of goals between the state and local governments, as well as the collateral advantages gained by the developer through voluntary negotiations. In other words, if it is in the developer's best interest, e.g., due to anticipated access to the new facility, the trade-offs associated with the state and local corridor preservation measures will be accepted.

## CHAPTER FOUR

## MAPS OF RESERVATION

A map of reservation is a planning tool available to state and local governments that allows land within a proposed transportation corridor, park, or other planned public facility to be reserved for future acquisition. Such maps, also referred to as alignment preservation maps, official maps, or corridor maps, are effective multipurpose tools but, like advance acquisitions, are probably underused. According to the AASHTO Task Force Report, only 17 percent of the surveyed states use such a tool (2). As creatures of statute, transportation agencies must be statutorily empowered to develop and file official maps by enabling legislation commonly referred to as a highway reservation law. The legislative enactment typically frames the parameters, utility, and duration of the protection offered.

In general, an officially authorized alignment is depicted on a map at a level of detail commensurate with existing and available information. The official map is then usually recorded or otherwise filed with local and county governments for either a fixed or unlimited duration, advising of intentions to construct the facility in a particular location. When the property owner seeks approval for a subdivision, site plan, building permit, etc., local and county authorities must then withhold the approval for a limited period of time. The triggered reservation period or moratorium, usually 60 to 120 days, allows the project sponsor to commit to an acquisition of all or part of the affected property, or otherwise negotiate with the property owner to achieve compatibility.

A representative example of a highway reservation law is the New Hampshire Corridor Protection Statute, which became effective on January 1, 1992 (21). The state of New Hampshire and its municipalities may establish "one or more highway planning corridors" after identifying public transportation needs, determining the termini and width of the planning corridor, and fulfilling other planning requirements contained in the statute (22). A public hearing must be held to present the proposed corridors (23). A detailed map of the corridor(s) is then filed with the Secretary of State and the government units with permitting authority within the corridor (24).

The effect of filing a corridor return (report and map) is that "no person shall subdivide any land, begin any development, or alter or expand any structure or use of land within such corridor, without first obtaining a corridor permit" (25). Upon receipt of a corridor permit application, the layout authority must, within 60 days, issue a permit, declare an intention to acquire an interest in all or part of the property, or otherwise reach agreement with the applicant (26).

If an acquisition is made, the layout authority must obtain a corridor protection restriction unless it is in the public interest to acquire greater property rights. Such a restriction is tantamount to the acquisition of development rights for a limited period of time. By definition, New Hampshire's development restriction cannot exceed 10 years (27).

The ability to map one or more alignments serves several impor-

tant purposes. First, it may serve as a community involvement mechanism by providing notice to the county, municipality, and general public of the sponsor's intentions regarding the project. Some states may elect to hold public hearings before filing the map; others may find postfiling comments to be more valuable. Filing an official map may also promote meaningful coordination with local governments and encourage municipalities to use other available corridor preservation tools.

Two interesting byproducts result from the filing of an official map. First, the mapping provides a means to inventory particular preservation needs within the corridor. It accomplishes this by heightening awareness of the project and, indirectly, of development activities in the area. It should simultaneously foster a dialogue between the affected municipalities and the state. Second, an official map encourages developers to recognize the needs of the states and local governments in planning their projects. More compatibility should result. As a corollary, municipalities should be in a better position to exercise their police powers through the use of exactions and other tools identified earlier in this chapter.

## RESERVATION OR REGULATORY TAKING?

The United States Constitution states that "no person . . . shall . . . be deprived of life, liberty, or property, without due process of law; nor shall private property be taken for public use, without just compensation" (28). This constitutional amendment applies to the states by virtue of the Fourteenth Amendment. In addition, most states have incorporated takings and/or damage clauses into their own constitutions, which require the payment of just compensation when land is taken for public use.

States have long been concerned about the legality of official maps. "The concern is that laws reserving land for future street and highway acquisition are an unconstitutional taking of property because they do not compensate the landowner for the temporary prohibition on development they require" (15, p. 3). Generally, courts will scrutinize the reasonableness of a governmental exercise of police powers based on a balancing of the governmental interest advanced by the reservation against its effect on the economic viability of the property.

At what point, in terms of the duration of the moratorium, does such a regulation approach a taking, thereby tipping this balance? This is a difficult question to answer. A longer duration may suggest a more effective preservation program because time enables projects to develop and right-of-way needs to crystalize. Time also allows agencies to make better decisions because they become more informed. Added time allows funding issues to be resolved, decisions to be finalized regarding whether or not to undertake advance acquisitions, and appraisals to be obtained for those parcels to be acquired. A short time limit undoubtedly affects corridor preservation efforts adversely. However, one source identifies the uncertainties of planning and lack of commitment to

acquire property as important factors relied on by courts in favoring short time periods (15, p. 24). It follows that many reservation laws include action-forcing provisions requiring the agencies to commit to purchase or allow development approvals to be issued.

From the owner's perspective, at what point does a moratorium become so oppressive that its economic impact supports a takings claim? Again, there is no clear answer, but the competing interests that courts will balance are framed for a more detailed discussion in Chapter Five.

#### **HOW PRECISE MUST THE MAP BE?**

As a practical matter, a map of reservation can be only as precise as the project's stage of development will allow. Bearing in mind that official mapping is a planning tool, preliminary engineering should generally suffice. In New Jersey, for example, an alignment preservation map typically consists of a "proposed line" of the highway (29). Mapping precision in other states varies from depicting a "corridor location" to the "location and width" to "surveyed" right-of-way (15, pp. 34-37). Provided that the area depicted on the map is based on the best planning and engineering information available at the time of preparation, it should suit the intended purpose and thus avoid or withstand claims of arbitrariness.

#### **HOW EARLY SHOULD A MAP BE FILED?**

A map of reservation can usually be filed very early in the project development process. Whether to do so is prudent likely depends on a number of factors peculiar to the project. For example, the number of reasonable alternatives (and whether one is clearly preferred) could influence the timing of such a filing. Other factors may include agency priorities regarding the project; anticipated funding for the project at large and for necessary protective acquisitions; whether development is anticipated in or threatening the corridor; whether obvious or anticipated environmental constraints exist that warrant early preservation activities to "avoid" environmental impacts; and local sentiment regarding the project. If circumstances suggest that filing a preservation map will be beneficial, a preservation map may be filed at any point in the process. Official maps can also usually be amended to incorporate changes and refinements accompanying project development and the progression of design.

The timing of map filing also relates to the difficulty of identifying specific right-of-way needs. Obviously, the earlier in the process the filing takes place, the more difficult it is to assess final right-of-way requirements. The ability to later acquire additional parcels and to divest or sell excess property enables early acquisitions to occur based on best-available information, including design criteria for the proposed facility.

#### **ARE ACQUISITIONS THAT OCCUR DURING THE MORATORIUM CONSISTENT WITH FHWA REGULATIONS?**

The power of eminent domain is conferred upon each state's transportation agency by its legislature. In addition, each state transportation agency is responsible for right-of-way acquisitions on all federal-aid highway systems (30). Although federal funds are typically not available for costs incurred before the appropriate federal authorizations (31), ISTEA does provide for retroactive reimbursements when certain conditions are met (3).

Federal authorization provisions pertaining to hardship and protective buying generally apply to acquisitions during a development moratorium imposed by the filing of an official map. If these provisions are met, acquisitions undertaken during the moratorium conform to the FHWA regulatory scheme. As set forth in Chapter Two, states can undertake these acquisitions with state funds pursuant to 23 C.F.R. 712.204 (d)(5), provided these acquisitions do not "influence the environmental assessment of a project, including the decision relative to the need to construct the project or the selection of a specific location" (32). These state-funded acquisitions cannot involve a 4(f) property (historic sites or publicly owned parklands, recreation areas, or wildlife and waterfowl refuges) until the 4(f) process (procedures and determinations) has been completed (33).

State-funded hardship or protective purchases undertaken pursuant to 23 C.F.R. 712.204(d) will not jeopardize federal participation in future project costs, provided that these purchases conform to Title VI of the Civil Rights Act of 1964, the Uniform Relocation Assistance and Real Property Acquisitions Policy Act, and 49 C.F.R. part 24 (34).

FHWA may, in "extraordinary cases or emergency situations," authorize federal participation in the cost of advance or hardship acquisitions, provided that a limited number of parcels are involved. As a prerequisite, FHWA requires that the state notify the public of the selection of a preferred alternative, or conduct or afford an opportunity for a public hearing. The state must also demonstrate that the acquisitions will alleviate hardship or prevent imminent development and increased acquisition costs (35).

#### **IS SUCH AN ACQUISITION CONSISTENT WITH NEPA?**

This issue is addressed in more detail in Chapter Five. In general, however, the acquisition of property (i.e., the actual transfer of title) has been viewed by the courts to be environmentally neutral and therefore not considered a "major federal action significantly affecting the quality of the human environment" (1). Therefore, if handled correctly, a program of early property acquisitions can be developed consistent with NEPA principles. As a corollary to these judicial holdings, FHWA regulations specifically identify hardship acquisitions and protective purchases as possible Categorical Exclusions, provided that the purchases "will not limit the evaluation of alternatives. . ." (36).

## CHAPTER FIVE

## LEGAL ISSUES

## REGULATORY TAKINGS

Chapters Three and Four identified and discussed some of the corridor preservation techniques available to state and local governments in lieu of, or in addition to, conventional and advance property acquisitions. These discussions also alluded that courts are closely scrutinizing governmental land use regulations. It is therefore appropriate to highlight certain legal principles and issues that are likely to influence the development of a corridor preservation program. This area of the law is rapidly evolving and the implications of recent court decisions are subject to much debate and interpretation. It follows that administrators, planners, and other governmental representatives pursuing corridor preservation solutions, should seek appropriate advice to avoid legal pitfalls.

Land use law can be characterized as the legal principles, standards, and rules that govern the juxtaposition of two opposite and competing social philosophies. On one hand is the concept of property ownership as a constitutionally protected fundamental right, and associated entrepreneurial values; on the other is the protection of the public at large against harmful or nuisance-producing land use activities through police power regulations. This competition pits the notion of judicial scrutiny of governmental regulation against that of judicial deference to legislative intentions and executive decision making (16, Ch. 3; 37). Whether or not governmental regulation constitutes a taking of property is therefore a question that involves an assessment and balancing of competing interests.

Acquiring property through the exercise of eminent domain involves a physical compensatory taking for a public purpose or benefit. In contrast, the exercise of police powers regulates property without compensation to prohibit uses that are considered detrimental to the public. Legal challenges typically ensue when owners believe that the regulatory imposition on their activities is too onerous. As stated many years ago by Justice Holmes in a frequently cited Supreme Court case, "while property may be regulated to a certain extent, if regulation goes too far it will be recognized as a taking" (38).

Over the years, courts have applied a variety of tests to determine, case by case, if regulation has gone too far. One such analysis focuses on whether the regulation prevents a harm or nuisance, or confers a public benefit. In the latter case, courts have required the government to compensate the landowner. This approach has been referred to as the "harm/benefit" test or "nuisance abatement theory" (16, pp. 20–21). It is based on the notion that although owners are somewhat burdened by such restrictions, all persons benefit from the restrictions that are placed on others (16). This concept has been referred to by some courts as a "reciprocity of advantage" (15, p. 6).

A second test, called the "diminution of value" analysis, focuses on the economic impact of the regulation on the property. Courts have varied as to how extreme the impact must be to constitute a taking. Because an impact assessment is often difficult to make,

coupled with the recognition that other factors frequently warrant consideration, courts have imposed a third test that involves a balancing of the regulatory purposes against the detriment to the property owner. A balance of interests analysis recognizes that regulatory taking cases present questions of degree and cannot usually be decided by "general propositions" (16, pp. 21–23).

While the Supreme Court has not established a single, set formula, it has identified at least four major factors, with one or more being critical in the context of the particular factual circumstances:

- The economic impact of the regulation
- The regulation's interference with investment-backed expectations
- Whether the government action constitutes a physical invasion
- The nature of the state's interest in the regulation (39).

A look at the circumstances of some of these cases and the application of the previously mentioned factors will aid in understanding these concepts.

In 1987, the Supreme Court issued a series of landmark decisions in the regulatory takings area that has generated considerable debate and commentary. In the case of *First English Evangelical Church of Glendale v. County of Los Angeles*, 482 U.S. 304 (1987), the Supreme Court focused on remedies (injunctive relief versus monetary damages) and limited its decision to whether or not compensation can be recovered from the government in circumstances where regulatory activity is considered a taking. In California, prior to this decision, the remedy in regulatory taking cases had been a declaration that the regulatory activity was invalid. Assuming that the regulatory activity was invalid in that case, the Supreme Court held that upon such a finding, the property owner would be entitled to compensation. The case was then remanded to the Court of Appeals to determine the propriety of the regulation. The factual circumstances of the *First English Church* case are discussed in detail later in this chapter.

Within weeks of the *First English* decision, the Supreme Court decided the landmark case of *Nollan v. California Coastal Commission*, 483 U.S. 825 (1987). The *Nollan* case held that the Coastal Commission's conditional permit approval requiring the property owner to grant an easement across beachfront property to the public, in exchange for permission to rebuild a house, constituted a compensable taking. The *Nollan*'s beachfront property was located in Ventura County, California. North of the property was an oceanside public park consisting of a public beach and recreation area. Immediately to the south of their property was another public beach area. The balance of their lot was separated from the beach by an 8-foot-high seawall. They owned a leasehold interest in the property with an option to buy, contingent on demolishing and rebuilding an extant bungalow.

To replace the structure, the *Nollans* needed a coastal development permit from the California Coastal Commission. Over the

objection of the Nollans, the Coastal Commission issued a permit conditioned on the grant of a permanent easement that would enable the public to cross the property on the ocean side of the seawall. The Nollans petitioned the Ventura County Superior Court to invalidate the permit condition, arguing that there was no relationship between the intended construction and the ability of the public to access the beach.

The Superior Court remanded the case to the Commission for an administrative hearing. The Commission found that the new structure "would increase blockage of the view of the ocean, thus contributing to the development of 'a wall of residential structures' that would prevent the public 'psychologically . . . from realizing a stretch of coast line exists nearby that they have every right to visit.'" The case went back to Superior Court, which directed that the condition be removed from the permit. The Coastal Commission appealed to the California Court of Appeals, which reversed the Superior Court ruling. The Nollans thereafter appealed to the United States Supreme Court, arguing that the requirement of donating the easement amounted to a violation of the takings clause of the Fifth Amendment, which by way of the Fourteenth Amendment applies to the states (483 U.S., pp. 828-831).

The United States Supreme Court ruled on behalf of the Nollans. The Court began its analysis with the concept that "a permit condition that serves the same legitimate police-power purpose as a refusal to issue the permit should not be found to be a taking if the refusal to issue the permit would not constitute a taking." The court reasoned that "[t]he evident constitutional propriety disappears, however, if the condition substituted for the prohibition utterly fails to further the end advanced as the justification for the prohibition" (483 U.S., pp. 836-837).

The facts of this particular case simply did not demonstrate a nexus between the governmental purpose and the permit condition. The Court stated the following:

Whatever may be the outer limits of 'legitimate state interests' in the takings and land-use context, this is not one of them. In short, unless the permit condition serves the same governmental purpose as the development ban, the building restriction is not a valid regulation of land use but 'an out-and-out plan of extortion.' *Nollan v. California Coastal Commission*, 483 U.S., p. 837.

Subsequent to the *Nollan* decision, the California Court of Appeals decided the substantive issues in the *First English* case on remand from the Supreme Court (40). An explanation of the conclusion of the *First English* case will assist in understanding the practical application of the previously described principles.

The First English Evangelical Lutheran Church of Glendale owned 21 acres of private campground that suffered the destruction of its buildings due to a flood. The issue before the Court of Appeals was whether or not a county ordinance, adopted after the flood and that prohibited the construction of the buildings until the completion of a flood study in the vicinity, constituted a regulatory taking for which compensation should be paid. The court discussed the taking nexus requirements established by the Supreme Court and suggested that the extent of permissible regulation without compensation is directly related to the nature of the public purpose.

Under the facts of *First English*, the court had no problem holding that the moratorium on construction in the flood area was not a temporary taking because of the importance of protecting the public's safety. In discussing the critical nature of the state's action, the court indicated that "it makes perfect sense to deny compensation for the denial of 'all uses' where health and safety

are at stake but require compensation for the denial of 'all uses' where the land use regulation advances lesser public purposes" (40). The California Court of Appeals further recognized that the duration of the interim ordinance was quite reasonable in view of the serious nature of the problem. Within less than 2 years, the county of Los Angeles completed a study and prepared a report containing recommendations; thereafter, the county held public hearings that led to the adoption of a permanent ordinance.

Finally, the California Court of Appeals held, pursuant to *Nollan*, that the interim ordinance substantially advanced a specific and legitimate state interest. In conclusion, the Court upheld the moratorium in question and recognized that interim land use restrictions will withstand judicial scrutiny unless they are "unreasonable in purpose, duration or scope" (40).

The case of *Lucas v. South Carolina Coastal Council* was decided by the Supreme Court in June 1992 (41). This case gained national attention with expectations that it would clarify confusion surrounding some of the regulatory taking principles discussed previously. David Lucas paid almost \$1 million for two beachfront lots on the Isle of Palms in 1986 with the intention of constructing single-family homes. Adjacent beachfront properties had already been developed. The Legislature of South Carolina passed the Beachfront Management Act in 1988, pursuant to which the Coastal Council established a mandatory setback line (connecting historical erosion points) landward of the Lucas property. This prohibited Mr. Lucas from constructing any permanent structures on the property. He brought suit against the Coastal Commission contending that, despite the objectives of the legislature, these restrictions had stripped the property of its value, thus constituting a taking for which he should be compensated.

The trial court agreed with Mr. Lucas and awarded him in excess of \$1.2 million as compensation for a regulatory taking. On appeal, the South Carolina Supreme Court reversed. Relying on principles enunciated in *Keystone Bituminous Coal Assoc. v. DeBenedictis* (480, U.S. (1987)), the South Carolina Supreme Court found that since the regulation sought to prevent a use that would seriously harm the public (Lucas conceded as much and failed to attack the legislative findings or regulatory application), a taking had not occurred despite the extent of the economic impact (39).

By a six to three vote, the United States Supreme Court reversed the South Carolina Supreme Court, holding that in cases where governmental regulation denies all economically beneficial use of property, a taking occurs unless the prevented use constitutes a nuisance (41). Relying, in part, on *Keystone* and *Nollan*, the Court stated the following:

[A situation] in which we have found categorical treatment appropriate is where regulation denies all economically beneficial or productive use of land . . . As we have said on numerous occasions, the Fifth Amendment is violated when land-use regulation 'does not substantially advance legitimate state interests or denies an owner economically viable use of his land.' (41, pp. 10-11).

Along the way, the Court abolished the "harm/benefit" test, also referred to in the opinion as a "harmful and noxious use" analysis, noting that it has been succeeded by an analysis of whether the regulation "substantially advances legitimate state interests" (41, pp. 20-21). The Court also identified circumstances where regulations "compel the property owner to suffer a physical 'invasion' of his property" as a second "discrete category" warranting compensation without the need to evaluate or balance the nature of the state's interest (41, p. 9).

In addition, the Court rejected arguments advanced by the Coastal Commission that Lucas' failure to seek a "special permit" to develop the property (allowable under a 1991 amendment to the statute) warranted dismissal or remand to a lower court. This aspect of the decision—concerning a failure to exhaust administrative remedies—has been viewed in legal commentary as "substantially weakening the ripeness doctrine" previously relied on by the courts to avoid deciding the merits of regulatory takings cases (42).

Finally, the Court indicated that to prevail on a nuisance-abatement exception to the categorical rule that a taking occurs when all economically beneficial uses are denied, the government must do more than rely on legislative declarations that the statute serves the public interest. Rather, the government must prove that the prohibited uses were "always unlawful" under existing nuisance principles or otherwise outside of the bundle of rights that compose ownership (41, pp. 24–26).

### EFFECTS ON CORRIDOR PRESERVATION

How do these decisions, particularly *Lucas*, affect corridor preservation efforts? Legal commentary on the *Lucas* case suggests that the abandonment of the harm/benefit rule in favor of the broader consideration of the governmental interest will "reduce rather than increase the number of land-use cases in which a taking can be found" (43). Similarly, a second commentary observes that the Supreme Court apparently elected to avoid applying a standard assessing the interference with investment-backed expectations "which would significantly broaden the rights of landowners to compensation" (42, p. 6). However, this same commentary expresses the belief that the pendulum is swinging toward the preservation of property rights "and not toward governmental regulation of them" (42, p. 7).

Whether *Lucas* has clarified or confused regulatory taking's jurisprudence, or tipped the scales in favor of one or the other of the competing interests described at the outset of this chapter, one point seems evident: unless circumstances are egregious enough to warrant the application of one of the two categorical treatment tests enunciated in *Lucas*, courts will likely continue to apply these principles in a balancing manner and on a case-by-case basis. Particular, factual circumstances will continue to be key in the disposition of regulatory takings cases. Provided that government recognizes the competing interests involved, the fact-sensitive nature of these issues, and the associated risks, the exercise of available police powers can be extremely effective in protecting transportation corridors.

### IS THE ACQUISITION OF RIGHT-OF-WAY AN ENVIRONMENTALLY NEUTRAL ACTION?

In the context of an advance acquisition, challenges to such a taking generally allege that NEPA is being violated. The AASHTO

Task Force on Corridor Preservation, however, suggests that properly used corridor preservation techniques will likely promote environmental interests rather than adversely affect them (2). With this in mind, and in view of the fact that corridor preservation strategies must be developed in the context of NEPA, the Task Force sought to address the previously stated question. Appendix B to the AASHTO Task Force Report contains a review of case law on the subject dating back to the enactment of NEPA (2). A majority of the cases support the proposition that the acquisition of right-of-way is environmentally neutral, distinguishing the impacts associated with the proposed project from the impacts associated with the actual acquisition of the property.

Subsequent to the publication of the AASHTO Task Force Report, a case was decided by the Southern District of New York involving the acquisition of property by the United States Postal Service prior to completion of the NEPA process—*United States v. 27.09 acres of land*, 737 F. Supp. 277 (S.D.N.Y. 1990). The Postal Service sought to replace its existing general mail facility in Mt. Vernon, N.Y., by constructing a new facility at a different site. An EA was prepared for one of the sites being evaluated. After circulating the EA, but before the expiration of the 90-day period for public comment, the Postal Service filed a declaration of taking for the property in question.

The Purchase Environmental Protective Association (PEPA), along with the Town and Village of Harrison, brought suit against the Postal Service to prohibit the condemnation of property until completion of the NEPA process. Plaintiffs argued that an injunction should be issued to "ensure that the agency involved conducts a thorough and good-faith environmental review free of any pre-existing commitment of resources, such as the funds committed to condemnation which might cause the agency to forego consideration of less environmentally damaging alternative sites generated during the NEPA review process."

Following the trend of cases outlined in the AASHTO Task Force Report, the court recognized that the use of the property was separable from the acquisition because the condemnor could ultimately sell the property or put it to a different use. Based on the particular facts of the case, the court dismissed the case and so upheld the propriety of the condemnation.

The conclusions drawn by the Task Force seem valid today. Isolated or limited property acquisitions will likely be viewed as environmentally neutral actions that do not compromise the integrity of the NEPA process or otherwise represent an irretrievable commitment of resources. In contrast, corridorwide acquisitions before completion of the NEPA process may require additional, if not different, processing and justification. Arguably, the more extensive the undertaking, the closer the question becomes regarding prejudicing alternatives and compromising the processing.

## CHAPTER SIX

## THE NEED FOR INNOVATION

## FUNDING ISSUES

The availability of funding has always been a critical corridor preservation issue. Advance acquisitions are often limited because other immediate needs are given priority. Despite the availability of federal funds from a revolving account (23 C.F.R. 712, Subpart G), limitations on the amount of these funds, coupled with other regulatory restrictions, have prevented this option from playing a major role. Use of the revolving account requires repayment with either state or other subsequently available federal-aid-project funds, and NEPA compliance prior to incorporating the right-of-way into a federal project.

The ISTEA removed one of the constraints that discouraged use of federal funds from the revolving account. Previously, the Federal Aid Highway Act allowed the use of these funds for projects scheduled for construction within 10 years (23 C.F.R. 712.702 (d)). Section 1017 of the ISTEA now enables federal funding to preserve corridors for long-range projects by expanding this time frame to 20 years. The ISTEA also addresses the funding issue by authorizing retroactive reimbursement to the states for state-funded acquisitions made in advance of any federal approval or authorization, provided that the acquired parcels are subsequently incorporated into an eligible project. Previously, such state expenditures were nonreimbursable (23 C.F.R. 712).

Section 1017 of the ISTEA, however, imposes the following conditions on federal reimbursement of pre-NEPA compliance state expenditures (3). The states must demonstrate the following:

- Compliance with the Uniform Relocation and Real Property Acquisition Act of 1970
- Compliance with Title VI of the Civil Rights Act of 1964
- The existence of and consistency with a comprehensive and coordinated land use, environmental, and transportation planning process
- That the acquisition was associated with an alternative selected in accordance with regulations governing the consideration of environmental impacts
- Completion of the NEPA process and compliance with applicable environmental laws prior to reimbursement
- Concurrence by the Secretary and EPA Administrator that the acquisition did not influence project decisions (3).

Notwithstanding the attention and deserved recognition that corridor preservation has received in the ISTEA, it is apparent that available resources in this regard will remain scarce. The need for innovation is ever present. Three areas worthy of discussion are as follows:

- The need to emphasize and exhaust all available nonacquisition corridor preservation techniques; making these techniques the focal point of a program requires close coordina-

tion and cooperation with local government as well as deliberative community involvement

- The need to enhance funding capabilities for right-of-way protection on the state and local levels
- The need to examine and evaluate traditional planning and project development processes to determine whether changes are viable to achieve early identification of corridor preservation needs and enhance the use of environmental analysis.

## PRESERVATION V. ADVANCE ACQUISITION

Due to funding constraints and other obstacles that have been alluded to previously, corridor preservation should no longer be equated solely with the acquisition of property nor considered only a right-of-way issue. It is incumbent on the states to formalize their own corridor preservation programs transcending a variety of organizational units (2, 44). It makes sense that planning units play prominent roles in developing and maintaining an inventory of preservation needs as transportation improvement programs are established. Research conducted for FHWA indicates that decision making should include assessments of relative importance of the projects to their respective transportation systems; whether corridors are being threatened by development; the severity of the impacts of development on proposed projects; the cost effectiveness of protecting now versus acquiring later; and property management factors in the event early acquisitions are undertaken (19, XII-5 to XII-8).

The AASHTO Task Force recommended an emphasis on systems planning to include preservation actions "in the multi-year TIP when appropriate and coordinat[e] with MPOs and local government plans and actions" (2). This is also an FHWA policy initiative. Integrating corridor preservation into the systems planning process has been sanctioned by ISTEA (3). Section 1025(a) requires the state planning process to consider, among other things, "preservation of rights-of-way for construction of future transportation projects, including identification of unused rights-of-way which may be needed for future transportation corridors, and identify those corridors for which action is most needed to prevent destruction or loss." In addition, the identical requirement has been placed on MPOs by virtue of Section 1024(a).

The formality of a program, including the early recognition of preservation needs, will enable states to rationally and systematically make decisions as well as to involve and coordinate with local governments. Assuming that the transportation improvement is locally supported, the notion that preservation will enhance project development and aid in expediting construction should provide some incentive for local entities to exercise regulatory powers to assist in protecting the corridor. This approach would focus primarily on preservation and secondarily on acquisitions. The expectation should be joint development resulting from planned land-use strategies, rather than a competitive struggle. Moreover, orderly

as opposed to haphazard advance acquisition decisions can be made where required.

Recent case studies support the propositions listed previously dealing with the role of local government. The Rivkin report observed the following:

One of the most important lessons of the case studies is the iron necessity for local community cooperation and involvement in the corridor preservation process. The state cannot do it alone. Corridor preservation works only if the affected jurisdictions are full parties to the effort. Except for its powers to purchase (limited by available capital funds) and to approve or deny access permits, the state lacks most of the tools available to local jurisdictions (44).

In summary, planning and community involvement are important elements of a successful corridor preservation program. Because multiple jurisdictions are often affected, early planning and community involvement can also serve as consensus-building vehicles.

### THE NEED TO INCREASE FUNDING CAPABILITIES

States are often confronted with difficult preservation decisions. Despite the desire to adhere to an orderly process, circumstances arise unexpectedly during various stages of a project that require prompt action to prevent imminent development. With adequate funding available, these difficult decisions become easier.

A handful of states have established their own revolving fund to finance early acquisitions; however, innovative techniques to replenish the fund are necessary (45, p. 27). Florida's legislature enacted a \$500 million bond issue in 1990 to fund advance acquisitions to preserve critical transportation corridors (44, p. 32). Income derived from state-owned properties is used to recapture some of these expenditures. The divestiture of excess properties is another viable source of funding (45, pp. 27-28). North Carolina's legislature has appropriated almost \$600 million for right-of-way acquisitions through 1996 as part of its overall highway program, funded by dedicated gasoline and vehicle-use taxes (44, p. 32).

Local sources are also candidates for reimbursing the states or, on occasion, serving as the primary funding source for an advance acquisition. Though resources are generally scarce at the local level, developer contributions, bond issues, and capital funds could be used by local governments and dictated by the level of local commitment for the project. In Bucks County, Pa., two municipalities and the county funded two advance acquisitions for the Park Road project and ultimately contributed about one-third of the \$8.5 million in right-of-way costs over a 10-year period. These funds were raised through a combination of bond issues and other available capital funds (45, p. 70). Similarly, residents of Maricopa County, Ariz., approved a 1/2-cent sales tax to defray a substantial freeway program that would serve the county. This type of sales tax has been imposed by several California counties as well (44, p. 32).

These instances reflect overwhelming local commitment and political consensus. As in these examples, the extent of the local-state partnership would likely affect the priority that the state places on the project. Through such a partnership, local government could also play a major role in monitoring activity within the corridor.

### ADDRESSING CORRIDOR PRESERVATION IN THE ENVIRONMENTAL PROCESS

While availability of non-federal funding sources for pre-NEPA compliance acquisitions is important, the NEPA process itself may

be conducive to innovative change that will help achieve the goals of a corridor preservation program.

The analysis undertaken by the AASHTO Corridor Preservation Task Force led to the conclusion that opportunities exist within the current regulatory system to review corridor preservation issues so as to accelerate the ability to acquire right-of-way. As indicated earlier, the federal regulatory scheme normally allows projectwide right-of-way acquisitions to occur only after environmental processing to avoid prejudicing the consideration of alternatives. Limited protective purchases and hardship acquisitions have been exceptions to the rule.

It is clear that to accelerate the acquisition of rights-of-way under the current regulatory framework, the environmental process must be accelerated. One approach is to add flexibility by phasing or tiering the environmental process to obtain a series of approvals. The first stage, undertaken during the planning process, would focus on corridor location and preservation, while the second would address in detail the environmental impacts associated with construction of a facility within the selected corridor (2, pp. 3-6). This approach concentrates on the implications of right-of-way activities during the first stage.

The AASHTO Task Force (2) recommends that the environmental analysis conducted during the first stage involve a focused EIS or EA, or be considered a categorical exclusion, depending on the particulars of the project. Under the premise that limited right-of-way acquisitions are environmentally neutral, a categorical exclusion could be possible for certain corridor preservation activities.

A first-stage approval would be tantamount to a conditional location approval. The condition would be that a second-stage approval would be required before construction activities began. In those situations in which the balance of the environmental processing could be prejudiced by first-stage acquisitions, further documentation, in the form of an EA or perhaps a certification from the state that there is no irretrievable commitment to a particular alternative, could support the issuance of a FONSI.

Another approach would be to accelerate the NEPA process by undertaking a location study as a planning effort to support the selection of a preferred alternative for the purpose of obtaining location approval. This approach is somewhat different from the first. The focus of the initial discussion was the approval of a project-specific corridor preservation program enabling the state to be eligible for federal funding of activities to preserve threatened properties. This second approach is oriented to the acceleration of the right-of-way acquisition phase of a project. The location study/first-stage effort would address substantive issues (on a broad scale) that are critical to the selection of a preferred alternative. The second stage would address site-specific details.

Under either scenario, the success of staging would be directly related to the avoidance of a duplication of efforts. Stage one, to be a worthwhile undertaking, should not resemble the traditional NEPA process in either scope or duration. It should address broad issues dealing with general location selection, including land use implications. Nor can project sponsors afford to duplicate first-stage efforts during the second stage. The AASHTO Task Force cautions that "care would have to be taken to avert the potential for the First Tier environmental document to blossom into a full scale EA or EIS such that the benefit of the Tiered approach would be lost" (2).

These concepts appear to be consistent with the 1990 U.S. Department of Transportation (US DOT) National Transportation Policy and FHWA Policy Statement. Both identify expeditious



environmental reviews as a key objective and support the consideration of environmental issues during systems planning. Moreover, both statements acknowledge that corridor preservation activities contribute to the avoidance of environmentally sensitive areas (46,47).

## COMPREHENSIVE PLANNING AND ENVIRONMENTAL PROCESSING

One common thread expressed in the 1990 FHWA Environmental Policy Statement and the Corridor Preservation Task Force Report is the concept of beginning the preparation of NEPA documents during the planning stage to obtain approval earlier than normal and to establish continuity between planning efforts and project development efforts. The Council on Environmental Quality similarly promotes this philosophy: "Agencies shall integrate the NEPA process with other planning at the earliest possible time to insure that planning and decisions reflect environmental values, to avoid delays later in the process, and to head off potential conflicts" (40 C.F.R. 1501.2).

Though some states may implicitly address environmental issues during the planning stage, it is apparent that such efforts are not generally acknowledged as a contribution toward NEPA compliance. If an acceleration of the NEPA process is to occur, the environmental work undertaken during planning should be acknowledged as the commencement of the NEPA process. This "early phase" activity would meet the policy goals enumerated previously, perhaps aid in streamlining the NEPA process, and of equal importance, allow for the formal integration of corridor preservation responsibilities into the planning stage.

Thus, from a corridor preservation perspective, the emphasis on planning addresses many of the process issues discussed in this synthesis, including the need to deliberately assess corridor preservation needs, the need to qualify for federal funding for acquisition purposes, the need to streamline the project schedule timeline, and the need to encourage and interact early with local government.

## LEGISLATIVE ASSISTANCE

The basic processing and legal concepts that affect the makeup of a corridor preservation program have been discussed previously. Can Congress and state legislatures assist the states in protecting critical transportation corridors? The passage of the ISTEA may

be a positive step in this direction. Congress acknowledged and emphasized the importance of corridor preservation and modified the Federal Aid Highway Act to expand the use of federal funds to preserve corridors for long-range projects. Furthermore, the federal participation rules were favorably changed to enable states to be reimbursed for certain state-funded preservation activities (3).

In addition, the Secretary of Transportation was required to submit a report to Congress by December 1993 containing an inventory of identified rights-of-way, projected costs, and preservation strategies "including the desirability of creating a transportation right-of-way land bank to preserve vital corridors" (Section 1017(c)). States are encouraged to take advantage of the opportunity to provide input to the Secretary. It is certainly possible that Congress will agree with many of the strategies presented and further modify the federal statutory scheme to promote corridor preservation.

On the state level, there is also much that can be accomplished. Enabling legislation should be sought by those states that favor but do not possess legislative authority to use maps of reservation as a corridor preservation technique. The establishment of a state revolving account to front the funding of advance acquisitions would also require a legislative enactment. States would further benefit if their legislatures would encourage the participation of local governments in a corridor preservation program. This can be accomplished through the formulation of funding incentives to municipalities that would temper the need for additional taxes or otherwise maximize the availability of local financial aid. The states and local governments can also be encouraged to enter into formal corridor preservation agreements on a project-by-project basis. The agreement would specify the efforts to be undertaken by each entity to preserve critical corridors and identify the commitments to each other that would follow.

Property owners can also be encouraged to participate in corridor preservation. One method is the enactment of agricultural zoning provisions that ease the tax burden to owners of agricultural property, provided that the land is not developed. Full or partial tax abatements for properties affected by maps of reservation are also tools that provide incentives to landowners to maintain existing property uses. Both of these techniques were invoked in Utah to preserve the West Valley Highway Corridor (19, pp. VI-20, VI-30).

These are but a few examples of the types of assistance that can be provided by statutory enactments. Transportation agencies will need to persist in the pursuit of legislative change to accomplish their respective corridor preservation goals.

## CONTEMPORARY THINKING ON THE ISSUE

### WHAT ARE THE STATES DOING?

FHWA retained a consulting firm to conduct case studies of corridor preservation in the following nine states, chosen principally for their previous use of the federal revolving fund (44): Arizona, California, Delaware, Florida, Georgia, Nevada, North Carolina, Oregon, and Utah (44).

The case studies identified three categories of corridor preservation activities:

- Capacity protection and access control for existing facilities,
- Specific new corridors, and
- General corridor preservation strategies.

Six of the nine states were pursuing capacity protection and access control for existing facilities. Eight were seeking to protect specific new corridors that were subject to pre-NEPA planning and location decisions, while six were generally developing corridor preservation strategies for their transportation programs. Arizona, California, Florida, and Oregon were identified as states active in all three categories.

Table 2 contains a summary of the responses of each of these nine states to a portion of the questions contained in the 1989 survey conducted by the AASHTO Corridor Preservation Task Force. At the time of the AASHTO survey, seven of the nine states had been identifying corridors that warranted protection. Additionally, only four of these states used non-federal funds to acquire properties prior to NEPA compliance.

The case studies are a valuable resource; they are comprehensive and germane to most of the corridor preservation issues identified in this synthesis. The following aspects of the case studies are worthy of summary.

First, four of the nine states have recently launched statewide corridor preservation programs (44). California, Florida, North Carolina, and Oregon have begun building their programs around a written policy statement, enabling legislation in keeping with the policy statement, internal and external "institutional reorientation," and newly created state funding sources for the highway program, including funds for advance acquisitions. Arizona, Florida, and North Carolina also use maps of reservation as a corridor preservation device.

In addition, some of these states have invoked a phased NEPA-process concept to accelerate property acquisitions, streamline the process, or both. One example is State Route 85, a planned freeway through Santa Clara County, Calif. The freeway has been planned since the early 1960s, and the state acquired roughly 45 percent of the right-of-way prior to the enactment of NEPA. In 1981, Caltrans prepared a "corridor EIS" to determine whether efforts should continue to protect the corridor or whether all or some of the previously acquired right-of-way should be abandoned. The document was premised on the uncertainty of the nature and timing of a future transportation facility in the corridor.

Interestingly, this "corridor EIS" was funded by the city of San Jose, which also used federal funding to protect certain key parcels. Furthermore, the Route 85 corridor was adopted by the Metropolitan Transportation Commission in its 1979 Regional Transportation Plan. The EIS concluded that protection of the corridor should continue. Thereafter, the county passed a  $\frac{1}{2}$ -cent sales tax with funds specifically earmarked for four transportation projects, including Route 85. It is estimated that local funds will finance about half of this project on completion.

More recent examples of a phased process include Delaware's strategy to undertake right-of-way acquisitions to preserve a corridor, pursuant to a categorical exclusion associated with its Route 1 improvement project. The second phase would address project-specific environmental impacts. Similarly, the Golden Gate Bridge, Highway and Transportation Agency prepared an Environmental Assessment/FONSI to acquire more than 50 miles of abandoned railroad right-of-way to preserve it for future transportation uses.

Pennsylvania was not part of the case studies but deserves mention for its proactive corridor preservation efforts. In the past few years, Pennsylvania has retained a consultant to examine and develop right-of-way preservation strategies on both state and local levels, and an action plan is being developed. Concurrently, Pennsylvania began efforts to enact a reservation mapping statute. The Pennsylvania DOT has established an interdisciplinary Task Force on Corridor Preservation that meets periodically to develop, review, and update an inventory of corridor preservation projects. The task force is also developing a policy statement, working on a state revolving-fund loan concept, and developing an education program for state, county, and local officials (48).

### FHWA-SPONSORED PILOT PROJECTS

After the AASHTO Task Force Report was published, FHWA initiated a program of pilot projects to promote corridor preservation and innovation. Proposed projects were solicited from the states as candidates. FHWA selected projects from Delaware, New Jersey, and North Carolina to constitute the corridor preservation pilot program.

#### North Carolina

The North Carolina Department of Transportation (NCDOT) is currently pursuing two corridor preservation projects—the North Wilkesboro-Wilkesboro study and the Asheville study. The focus of each of these pilot projects to phase or tier the NEPA process with an emphasis on community involvement and early involvement of resource agencies (49).

One element of North Carolina's systems planning effort is the development of a Thoroughfare Plan. It was decided to conduct an alternatives and environmental analysis during the systems plan-

TABLE 2  
EXCERPTS FROM AASHTO TASK FORCE SURVEY (2)

Does your agency	AZ	CA	DE	FL	GA	NV	NC	OR	UT
Identify corridors for protection?	yes	yes	yes	yes	yes	no	yes	no	yes
Does local gov't play a role in identification and protection?	yes	yes	yes/no	yes	yes	no	yes	yes	yes
Use police powers in cooperation with local gov't to protect corridors from development?	yes	yes	yes	yes	yes	no	yes	no	no
Use property acquisition devices to protect corridors from development?	yes	yes	yes	yes	yes	yes	yes	no	yes
Acquire property with non-federal funds prior to NEPA clearance?	yes	yes	yes	no	no	no	no	yes	no
Use federal funds for hardship or protective advance acquisitions?	yes	yes	yes	yes	yes	no	no	yes	no
If federal requirements were to allow acquisitions with federal funds (other than advance hardship or protective purchases) would you utilize the flexibility?	yes	yes	yes	yes	yes	no	no	yes	yes

ning process. FHWA and NCDOT offered the following reasons for preparing an Alternatives/Environmental Analysis document early in the process:

1. It would enable subsequent NEPA documents to address a single alternative on individual projects.
2. The development of an Alternatives/Environmental Document was achievable by the available statewide planning staff.
3. Public confusion regarding the consideration of alternatives during subsequent NEPA processes would be avoided. A perception exists that the NEPA process is a revisitation of decisions already made during the Thoroughfare Planning process. The documentation of alternatives and environmental analysis, along with public involvement in the systems planning process, followed by a focused D[raft]EIS, appears to be a logical progression.
4. Early community and environmental agency involvement should result in the development of an alternative that will be supported and will have little likelihood of changing during subsequent NEPA processing.
5. The Alternatives/Environmental Analysis Thoroughfare Document, coupled with appropriate community involvement, will allow the selection of a preferred alternative, thereby enabling NCDOT to utilize available corridor preservation techniques (49).

It is envisioned that the preparation of an EIS on the preferred

alternative (stage 2) will not duplicate the Alternatives/Environmental Analysis effort. Rather, the early involvement of the public and environmental agencies should eliminate controversy and speed the completion of the NEPA process. North Carolina is using a Geographic Information System (GIS) based on input from environmental agencies to identify environmental constraints and develop alternatives. Thus, the environmental agencies will have another point of contact with the project (50):

The Alternatives/Environmental Analysis Document and selection of the preferred alternative will enable North Carolina to exercise certain corridor preservation options. First, under North Carolina's Roadway Corridor Official Map Act, the state would be in a position to file an official corridor map, allowing the state to delay subdivision approvals and the issuance of building permits on properties within the corridor up to 3 years. In addition, NCDOT or the city would be authorized by state law to undertake advance acquisitions to protect the corridor from development.

Furthermore, completion of stage one will enable FHWA to approve hardship and protective purchases and perhaps authorize key right-of-way acquisitions on the basis of a Categorical Exclusion. Affected municipalities are also expected to be less reluctant to exercise their police powers to preserve the corridor, knowing that there is little likelihood that the preferred alternative will drastically change.

In March 1991, meetings were held with highway and environmental agencies to discuss the pilot projects and corridor preservation in general. Environmental agencies in attendance (the U.S. Fish and Wildlife Service and State Cultural Resources—Historic



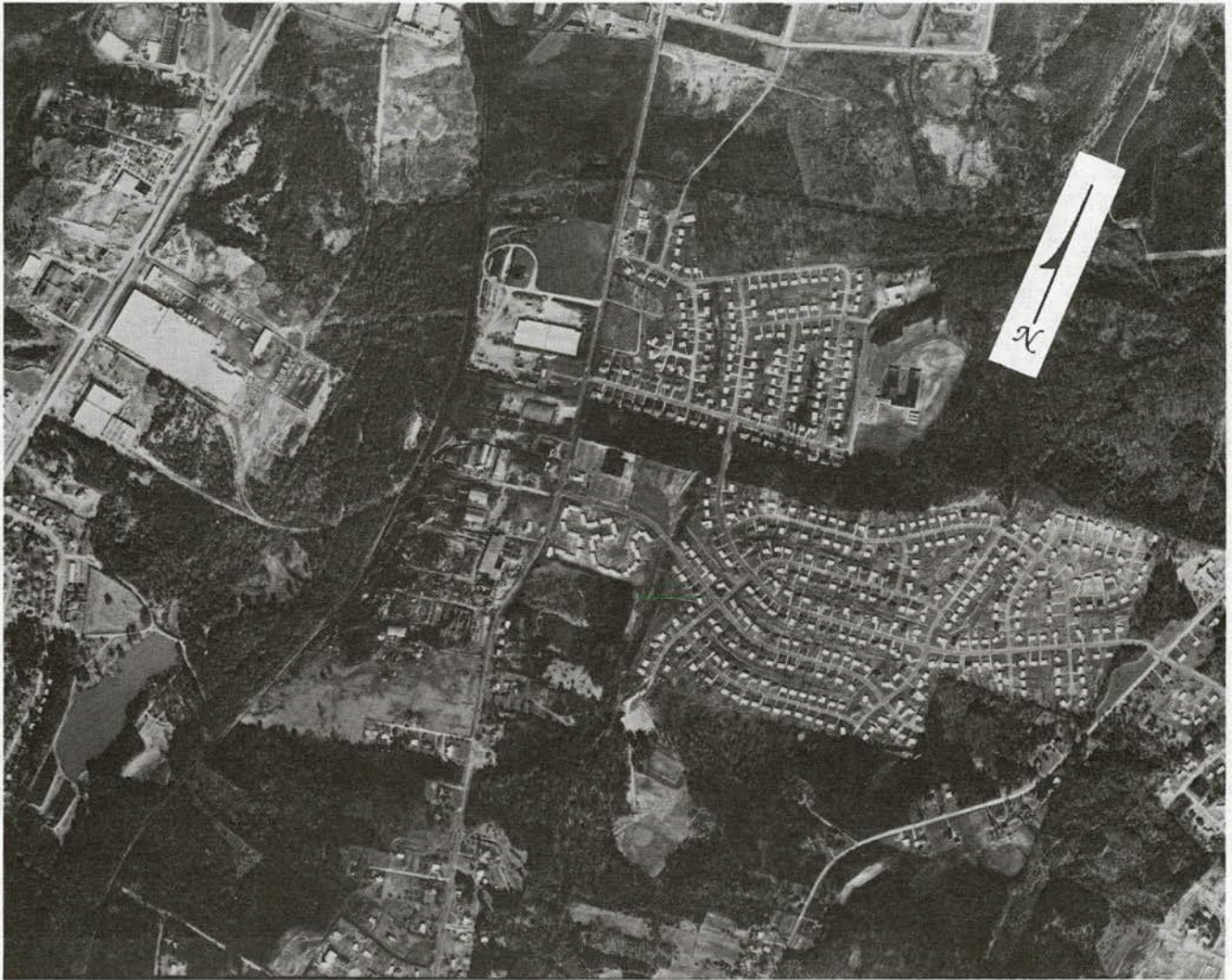


FIGURE 2 Raleigh, North Carolina, Southern Beltway before 1969.

Properties were unable to attend) expressed a willingness to participate and acknowledged the benefits of early involvement (51). Examples of other North Carolina preservation projects are shown in Figures 2 through 5. Representatives of NCDOT and FHWA Washington, Region, and Division levels have met to review the project areas and to establish procedures to be followed.

#### New Jersey

New Jersey's pilot corridor preservation project is referred to as the Route 31 Flemington Bypass (see Figure 6). Its purpose is to reduce through traffic on Route 31 in Flemington Borough and improve traffic flow at the Flemington Circle. The preferred alternative is immediately east of Flemington and will be approximately 4 miles in length (52).

The New Jersey Department of Transportation (NJDOT) conducted a public information meeting in December 1988 at which several alternatives were presented. At that time, the project was in the feasibility study phase. The preferred alternative was identified and presented to the public at the meeting.

In March 1989, NJDOT submitted this project to FHWA for consideration as a corridor preservation pilot project. The basis for the request was the view that the environmentally preferred corridor for the bypass was threatened by extensive proposed development. Without decisive action to preserve key parcels, development would force the project into environmentally sensitive areas and jeopardize its future.

New Jersey's strategy for this project has been to work closely with local jurisdictions to monitor development and encourage the exercise of local police powers to attain compatibility between the highway project and development, to streamline the process of undertaking advance acquisitions by approaching the issue on a coordinated corridor basis rather than a parcel-by-parcel basis, to file an alignment preservation map, and to consider reducing the project scope to the point where impacts will be minimal and an EA (as opposed to an EIS) could be justified.

NJDOT filed an alignment preservation map in December 1989 pursuant to the provisions of N.J.S.A. 27:7-66. This statutory scheme requires a municipality receiving an application for a subdivision, variance, or building permit approval to notify NJDOT





FIGURE 3 Raleigh, North Carolina, Southern Beltway after 1983.

of the activity. The municipality must then refrain from taking any action for 45 days to give NJDOT an opportunity to express an intention to acquire all or part of the property in question (53). The statute provides that no further action shall be taken on the application for an additional 120 days after the intention is expressed (N.J.S.A. 27:7-67).

After the preservation map was filed, FHWA authorized the advance acquisition of seven parcels using \$3.4 million from the

federal revolving account. In addition, Hunterdon County adopted a resolution in May 1990 supporting the designation of a preserved alignment. The Hunterdon County Planning Board adopted a resolution supporting the bypass and declaring its intention to include the preserved alignment in the County Transportation Plan. Raritan Township has continued to work closely with the state and developers to preserve needed rights-of-way.





FIGURE 4 Greensboro, North Carolina, Benjamin Parkway before 1981.



FIGURE 5 Greensboro, North Carolina, Benjamin Parkway after 1990.

### Delaware

Delaware's pilot project involves capacity protection of the existing U.S. Route 113/SR-1 Corridor between Dover Air Force Base and the Nassau overpass (see Figure 7). The corridor is a vital link to Delaware's north-south highway system. Access management techniques, coupled with the identification of desirable ultimate right-of-way, form the basis of the SR-1 Corridor Preservation Plan. The plan is currently a policy statement that has

been incorporated into "the Rules and Regulations for Subdivision Streets Manual and the Delaware DOT Entrance Manual for all parcels with frontage on the SR-1 corridor" (Appendix B).

Two principal features of this project are the establishment of a County Coordination Process and the application of subdivision and entrance review criteria to properties within the corridor. Coordination with Kent and Sussex Counties will emphasize the need to provide service roads and other access-limiting features, in conjunction with rezoning. The Delaware DOT Corridor Review Com-



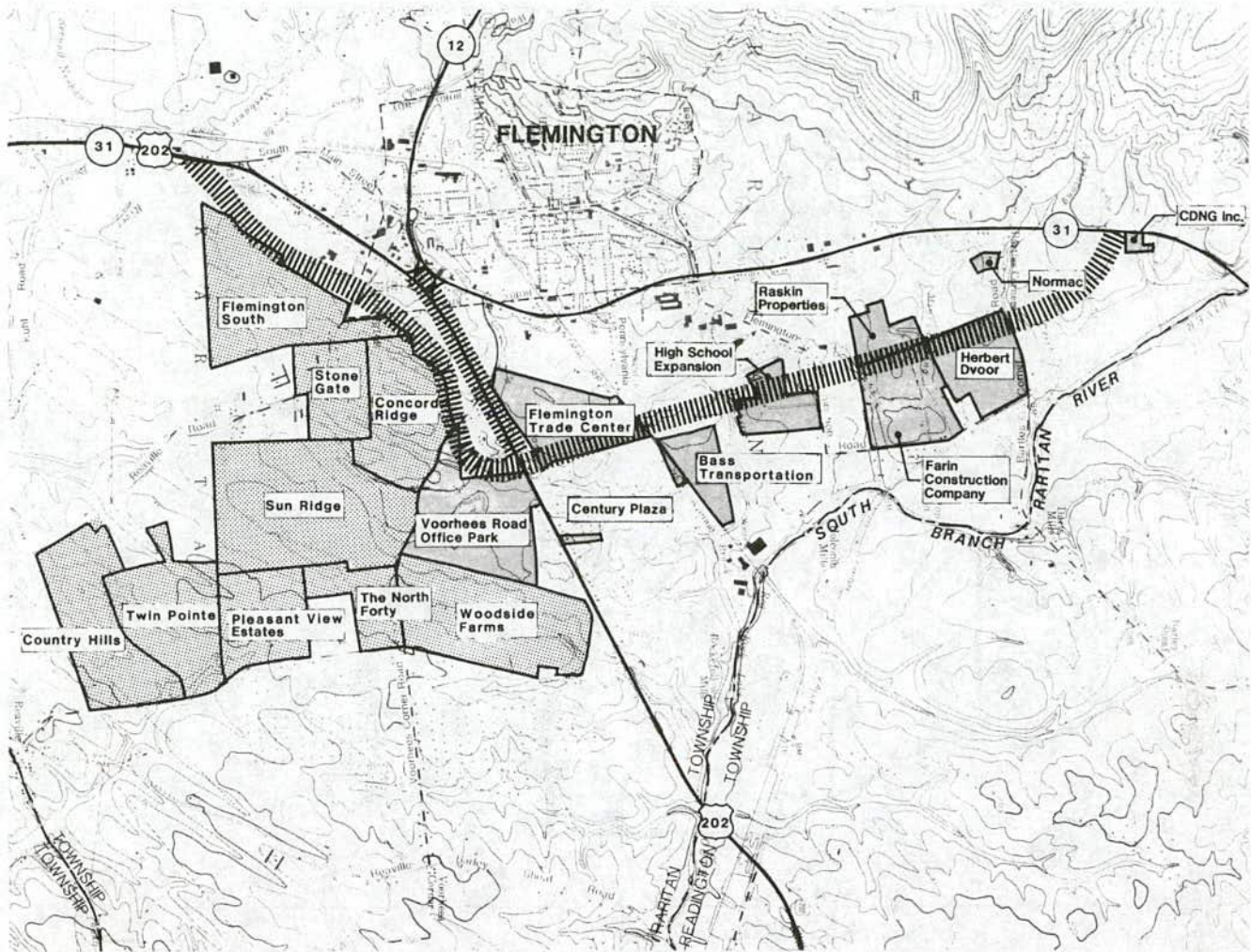


FIGURE 6 Route 31, Flemington, New Jersey by-pass (19).

mittee will review rezoning requests for consistency with the Corridor Preservation Plan and provide comments to the counties. Delaware DOT also intends to work closely with applicants through early coordination, including the offer of engineering and land use planning assistance at no cost to the applicant.

The subdivision and entrance review criteria will be assessed by the Corridor Review Committee during the site plan review process. These criteria include the reservation of rights-of-way for future capacity improvements and the ultimate conversion of direct access to controlled access by means of service roads, alternative collector roads, joint access with adjoining parcels, and stub-end streets. Entrance review criteria also include provisions for temporary access.

Delaware DOT's corridor preservation policy also identifies circumstances in which property interests may be acquired to obtain policy conformance. Advance acquisitions, however, will be undertaken primarily on a voluntary basis from property owners who do not contest the taking.

Delaware's capacity protection efforts point out the importance and desirability of access management as a regulatory tool that preserves existing highway corridors. Delaware's approach is similar to that of Oregon, where the Access Oregon Highways program

has established plans to ultimately convert multiple existing corridors into controlled access facilities (44).

#### THE NEED FOR EARLY INVOLVEMENT OF RESOURCE AGENCIES

It is apparent that the loss of critical corridors to development has created a need for innovation, particularly in the area of environmental processing. To date, the concept of a phased or tiered NEPA process has received the most support and is the focus of the two North Carolina pilot projects. For this type of innovative approach to succeed, the early involvement of resource (environmental) agencies is critical.

Interestingly, the notion of early resource agency involvement and the commencement of NEPA compliance during early planning is not new. The Council on Environmental Quality (CEQ) regulations, dating back at least as far as the July 1, 1978, revisions, identified federal policy to include the integration of NEPA requirements with planning and environmental reviews "so that all such procedures run concurrently rather than consecutively" (54). Of equal importance, the CEQ regulations emphasize "cooperative



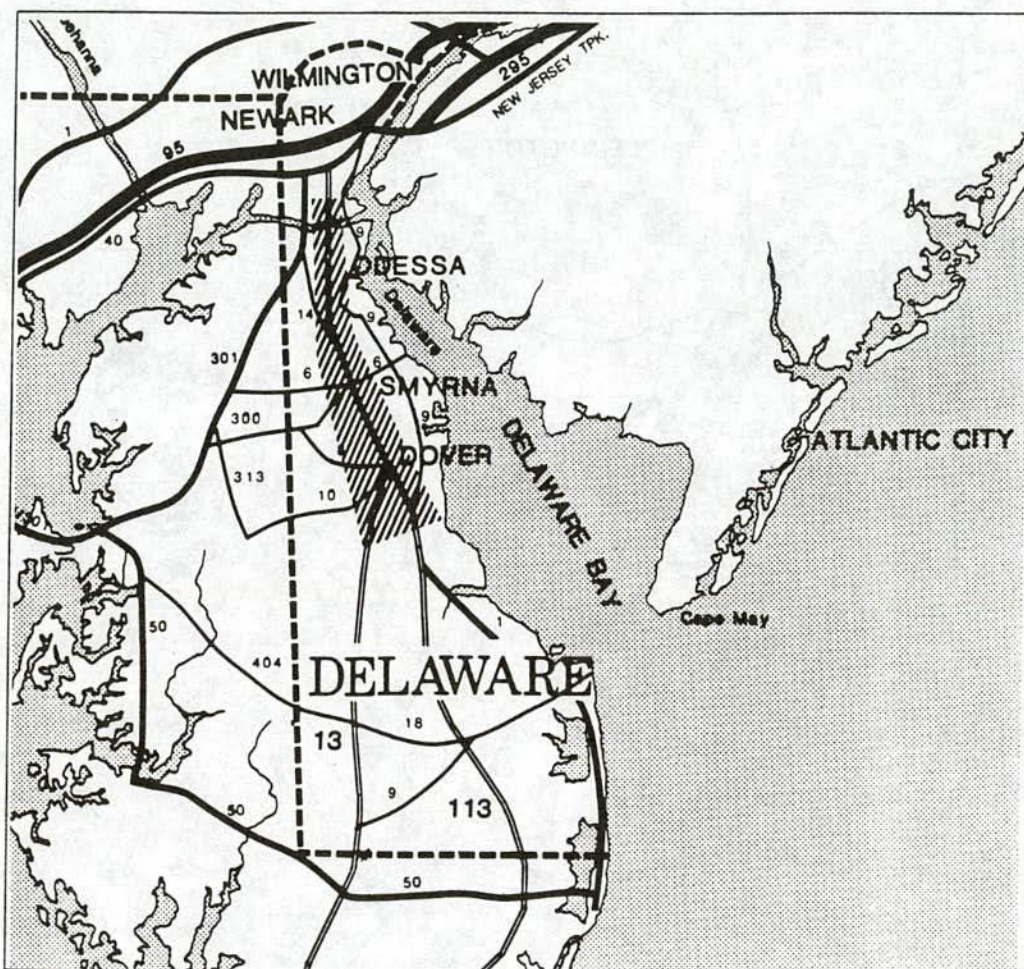


FIGURE 7 U.S. 13 relief route, Delaware.

consultation among agencies *before* the environmental impact statement is prepared rather than submission of adversary comments on a completed document" (emphasis added) (55). Toward this end, FHWA, EPA, and the Department of the Army have recently entered into an agreement to streamline and improve "efficiency of the environmental review and clearance process," including Section 404 permit applications (56).

Several forces have historically inhibited interagency cooperation. They include sequential decision making, parochial interests with differing agency priorities and goals, and a lack of staffing and funding. An Advisory Commission on Intergovernmental Relations has studied these and other environmental processing impediments inherent to the federal process. The Commission's Draft Report recognizes a need to improve agency coordination to effectively manage federal decision making and instill an "environmental ethic" in the planning process that will promote a partnership among federal, state, and local governments (57).

The North Carolina pilot program experience discussed previously has documented noteworthy issues concerning early coordination with resource agencies. First, despite the apparent additional workload, the resource agencies that have met with NCDOT "are viewing [the pilot project] as a tremendous opportunity to have input much earlier in the decision making process" (50, p.

1). This includes an ability to participate in the development of alternatives and the selection of a preferred alternative.

As stated earlier, this type of involvement will increase the flow of important information to the transportation agency and will also expose resource agencies to the transportation planning process. This will enhance their general understanding of the project development process as well as the needs for the project and events that influence the evolution of a project. Conversely, transportation agencies should develop an awareness of resource agency goals and concerns that should enhance the working relationship among agencies and result in decisions that will work for the common good.

With specific regard to corridor preservation, this early involvement may accelerate corridor approval (stage 1), enable right-of-way acquisitions to occur much earlier than under the traditional process, and position the transportation agency to streamline its stage 2 process to expeditiously obtain the remaining NEPA approvals.

The following excerpt from the North Carolina Pilot Project Proposal clearly and succinctly summarizes these benefits:

The benefits to including the agencies earlier in the process and seeking FHWA approval is the availability of more information to



better select an alternative, increasing interagency communications, improving right-of-way protection opportunities, minimizing the length and degree of public uncertainty, and reducing redundant efforts. Also, this process will align with the national mood of including more environmental considerations and agency input during the systems phase (50, p. 4).

This approach is not free of difficulties. Building relationships among agencies with different missions will take time and effort. However, recent trends in environmental resource planning offer promise. The common denominator must be a belief that cooperation will yield a transportation program that will reflect a consideration and minimization of environmental impacts.

One question that has surfaced during the pilot program is whether or not transportation agencies are in a position to commit to mitigation during a first-stage effort. A similar question is whether or not resource agencies will sanction the selection of a preferred alternative without such a commitment. These and other related issues must be addressed as each pilot project progresses.

#### **A WORD ABOUT TRANSIT AND MULTIMODAL FACILITIES**

Highways, transit, and multimodal facilities are being considered in designs for corridor preservation. Transportation and planning agencies must consider all transportation and planning alternatives for corridor preservation. Title III of the ISTEA contains the Federal Transit Act Amendments of 1991. Section 3(a)(1) of the Act (49 U.S.C. Sec. 1602) is amended to authorize the Secretary of Transportation to finance the following:

(F) the development of corridors to support fixed guideway systems, including protection of rights-of-way through acquisition, construction of dedicated bus and high occupancy vehicle lanes, construction of park and ride lots, and any other nonvehicular capital improvements that the Secretary may determine would result in increased transit usage in the corridor (3, Sec. 3006).

In addition, and in a manner paralleling the Title I Surface Transportation provisions, the Transit Act Amendments add a new Metropolitan Planning section (8) that focuses on promoting a national transportation system that embraces several modes of transportation. This section of the amendments goes on to identify

factors that must be considered by each MPO in the development of transportation plans and programs. One of the 15 stated considerations is as follows:

(10) Preservation of rights-of-way for construction of future transportation projects, including identification of unused rights-of-way which may be needed for future transportation corridors and identification of those corridors for which action is most needed to prevent destruction or loss (3, Sec. 3012).

As stated above, infrastructure retention is important to transit agencies and is an obvious candidate for the application of corridor preservation techniques. Privately owned transportation infrastructure (e.g., railroads, piers, and port facilities) is periodically abandoned, sold, or otherwise dismantled. Some of these properties remain inactive for extended periods of time. Others, however, are sold to developers or disposed of in piecemeal fashion.

The disposition of these properties often jeopardizes their possible future transportation use. Transit agencies are confronted with the following problem. First, they are often unaware of the activities of the private owners, including decisions to convert uses of properties or dispose of them to developers. Second, there may be uncertainty as to whether or not the facility has future transportation-use potential. Finally, difficult prioritization decisions must be made regarding the availability of funds to purchase key parcels (57).

The application of nonacquisition corridor preservation techniques would obviously assist in meeting the objective of infrastructure retention. The emphasis placed on planning in the statutory amendments should significantly increase the likelihood of retaining threatened infrastructure, particularly abandoned railroads. The MPOs, in conjunction with the state transit agency, could monitor applications for abandonment, develop an inventory of threatened infrastructure, and coordinate preservation efforts with county and local governments.

Park-and-ride lots, bus maintenance facilities, and other nonlinear transit endeavors are also well-suited for corridor preservation activities, including advance acquisitions. Bikeways, greenways, and facilities for other nonmotorized modes of transportation are similar candidates. The advance purchase of a strategic parcel in this regard would likely be viewed as an environmentally neutral action, enabling the environmental processing of the project to be completed or undertaken without fear of development or significant use changes.

## CONCLUSIONS AND RECOMMENDATIONS

The preservation of critical transportation corridors is a national concern. The 1990 AASHTO Corridor Preservation Task Force Report acknowledges that isolated project-specific and, to a lesser extent, program-specific preservation efforts have been undertaken with varying degrees of success, but a cohesive and comprehensive corridor preservation policy has been lacking. Such a policy is essential to help meet our future transportation and public works needs.

Corridor preservation received attention from Congress in the 1991 passage of the ISTEA. Congress mandated that states and MPOs consider corridor preservation in the development of transportation plans and programs. The Act further required the Secretary of Transportation to report to Congress by December 1993 to address corridor preservation strategies and land-banking concepts.

Three significant program aspects of corridor preservation have emerged. First, the agencies responsible for transportation and public works programs need to adjust their way of doing business to focus on corridor preservation throughout the planning process, with particular emphasis on systems planning. The integration of land use, environmental, and transportation planning is essential. As a corollary, cooperation among planning, environmental, design, and right-of-way units must intensify.

Second, there is a place for corridor preservation strategies

within existing NEPA parameters and associated regulatory guidelines. Opportunities exist within the existing legal framework to modify and streamline traditional planning and project development processes to initiate environmental compliance activities much earlier in the process, simplify corridor preservation options, and accelerate right-of-way acquisitions. Efforts should be made to consider the environmental impacts of proposed projects during systems planning.

Third, a need exists to fully integrate local government and MPOs into the development and implementation of each state's corridor preservation strategies. Collectively, the states, MPOs, and local governments can prioritize project and corridor preservation needs and implement those techniques that are suitable to protect critical corridors. Figure 8 highlights the noteworthy roles of federal, state, and local participants.

The successful achievement of corridor preservation goals depends, in part, on innovation. Federally sponsored pilot projects are underway in Delaware, New Jersey, and North Carolina. The progress of each pilot project is being observed with great interest, particularly those aspects involving phased NEPA processing and the early involvement of resource agencies.

In the courts, opinions have consistently held that the acquisition of limited right-of-way is an environmentally neutral action not

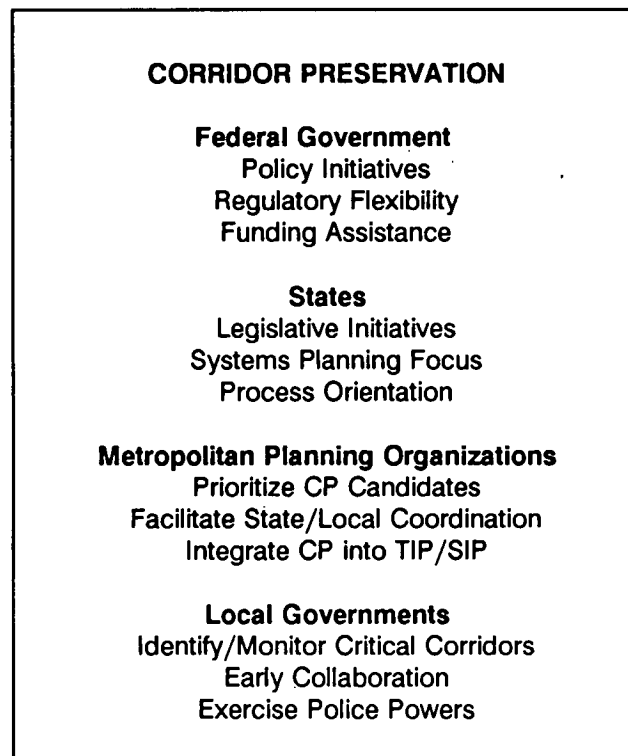


FIGURE 8 Roles of the key players.

subject to NEPA. This proposition supports the concept of processing certain acquisitions as categorical exclusions. In contrast, the series of cases decided by the Supreme Court in 1987, including the *Nollan* case, has left questions unanswered regarding regulatory takings in the context of the exercise of police powers. It was hoped that the United States Supreme Court in *Lucas v. South Carolina Coastal Council* (41) would establish pragmatic rules that would eliminate any reluctance on the part of government to exercise its inherent police powers with the knowledge that adherence to such guidelines would avoid regulatory takings. Unfortunately, except for its narrow ruling establishing *per se* takings in situations in which governmental regulation denies all economic beneficial use of property, the Court did not provide the type of guidance that was anticipated.

In conclusion, states would benefit from the development of methods of inventorying critical corridors and monitoring developer activities as a systems planning effort. Pilot projects should continue to be vigorously pursued with an emphasis on community involvement, phased NEPA processing, and the early involvement of resource agencies. Equally important, education and training on the federal, state, and local levels can be promoted and incorporated into the respective programs of transportation agencies. The successful preservation of critical corridors can favorably result in the avoidance or minimization of environmental, social, and economic impacts and achieve the goals of the AASHTO Task Force.

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## APPENDIX A

### GLOSSARY

#### INTRODUCTORY NOTE

Terminology relating to corridor preservation comes from the fields of transportation, real estate, and land use planning. The definitions below are culled from three standard glossaries, one in each of these fields.

**Transportation:** *Transportation Glossary*, American Association of State Highway and Transportation Officials, Washington, D.C., 1983.

**Real Estate:** Mike E. Miles, et al., *Real Estate Development, Principles and Process*, Urban Land Institute, Washington, D.C., 1991.

**Planning:** David R. Godschalk, et al., *Constitutional Issues of Growth Management*, Planners Press, Chicago, Illinois, 1979.

Attribution is given by identifying definitions from AASHTO as <sup>a</sup>; Miles, et al. as <sup>m</sup>; and Godschalk, et al. as <sup>g</sup>. For those few terms where standard definitions were not available, Rivkin Associates has drafted text which is identified as r.

**Acquisition or Taking.** The process of obtaining right-of-way.<sup>a</sup>

**Conveyance.** A written instrument by which a title, estate, or interest in property is transferred.

**Dedication.** The setting apart by the owner and acceptance by the public of property for highway use, in accordance with statute or common law.

**Eminent Domain.** The power to take private property for public use without the owner's consent, upon payment of just compensation.

**Negotiation.** The process by which property is sought to be acquired for highway purposes through discussion, conference, and mutual agreement upon the terms for transfer of such property.

**Option.** A written agreement granting a privilege to acquire property or interest therein at a fixed price within a specified period.

**Partial Taking.** The acquisition of a portion of a parcel of property.

**Remainder.** The portion of a parcel of land retained by the owner after a part of such parcel has been acquired.

**Remnant.** A remainder of land so small or irregular that it usually has little or no economic value to the owner.

**Severance Damages.** Loss in value of the remainder of a parcel resulting from a partial taking of real property.

**Air Rights.** The property rights for the control or specific use of a designated \*airspace involving a highway.<sup>a</sup>

**Benefit.** <sup>a</sup>

**General Benefit.** Advantage accruing from a given highway improvement to a community as a whole, applying to all property similarly situated.

**Special Benefit.** Advantage accruing from a given highway improvement to a specific property and not to others generally.

**Capital Programming.** The process of planning and scheduling the provision of governmental facilities and services during a future time period. The scheduled period for a capital improvements program is generally 5 to 10 years, with the most common period being 6 years. Capital improvements programs are usually revised each year. <sup>g</sup>

**Compensable Interest.** A property right, which if acquired for highway purposes, would entitle the owner to receive just compensation. <sup>a</sup>

**Comprehensive Plan.** An officially adopted local government policy statement concerning future development of the community, including all functional elements that bear on that development. The comprehensive plan coordinates proposals for the future use of land, circulation systems, housing, recreation, and public facility requirements. <sup>g</sup>

**Condemnation.** The process by which property is acquired for public purposes through legal proceedings under power of eminent domain. <sup>a</sup>

**Inverse Condemnation.** A legal process which may be initiated by a property owner to compel the payment of just compensation where his property has been taken or damaged for a public purpose.

**Consequential Damages.** Loss in value of a parcel, no portion of which is acquired, resulting from a highway improvement. <sup>a</sup>

**Control of Access.** The condition where the right of owners or occupants of abutting land or other persons to access, light, air, or view in connection with a highway is fully or partially controlled by public authority. <sup>a</sup>

Full control of access means that the authority to control access

is exercised to give preference to through traffic by providing access connections with selected public roads only, by prohibiting crossings at grade or direct private driveway connections.

Partial control of access means that the authority to control access is exercised to give preference to through traffic to a degree that, in addition to access connections with selected public roads, there may be some crossings at grade and some private driveway connections.

**Corridor.** A strip of land between two termini within which traffic, topography, environment and other characteristics are evaluated for transportation purposes.<sup>a</sup>

**Covenant.** A restriction on real property that is binding, regardless of changes in ownership, because it is attached to the title. Used generally in covenants, conditions, and restrictions.<sup>m</sup>

**Critical Environmental Areas (also Areas of Environmental Concern).** Areas of environmental importance designated for particular development controls due to the sensitive nature of the environmental system.<sup>8</sup>

**Deed.** A written instrument conveying real property or interest therein, usually under seal.<sup>a</sup>

**Density.** The level of concentration (high or low) of buildings, including their total volume, within a given area. Often expressed as a ratio, for example, dwelling units per acre or floor/area ratio.<sup>m</sup>

**Density Transfer.** A technique, available under the zoning ordinances of some communities, which permits the developer to shift allowable density (or uses) from one portion of a tract to another. This permits reservation of land for public purposes (such as right-of-way) or for project amenities (such as parks) avoiding loss of development value to the property.<sup>r</sup>

**Developer.** One who prepares raw land for improvement by installing roads, utilities, and so on; also a builder (one who actually constructs improvements on real estate).<sup>m</sup>

**Development District (also Special Taxing District).** A designated area which will be specially benefited by a publicly financed project such as the area surrounding a public transit station. Within the development district, a special additional tax is levied to help finance the project. (The term may also be used in a nontax context, such as in a land classification scheme to denote the area slated for services and facilities extension and for the receipt of the new residential development.)<sup>8</sup>

**Development Process.** The process of preparing raw land so that it becomes suitable for the erection of buildings; generally involves clearing and grading land and installing roads and utility services.<sup>m</sup>

**Direct Compensation.** Payment for land or interest in land and improvements actually acquired for highway purposes; sometimes called direct damages.<sup>a</sup>

**Discounted Cash Flow.** Present value of monies to be received in the future; determined by multiplying projected cash flows by the discount factor.<sup>m</sup>

**Easement, Negative.** The removal of certain stated rights from the owners total property rights. For example, a local government may buy a scenic easement (a type of negative easement) from a property owner to prevent use of that property in a way that would destroy its aesthetic values, while leaving all other compatible rights of use and enjoyment of the property unrestricted.<sup>8</sup>

**Enabling Legislation.** Legislation typically delegated to local government that specifies the police power the state is giving to the local government. Cities, counties, and other local governments undertake planning, zoning, and additional forms of development regulation according to state enabling statutes.<sup>m</sup>

**Environmental Impact Statement (EIS).** An analysis of potential environmental effects of a major project, required by federal, state, or local government regulations before construction of the project can begin. An EIS must generally include a discussion of the environmental effects of the proposed development, measures to mitigate adverse environmental effects, alternatives to the proposed action, relationships between short-term uses of the environment and long-term productivity, and irreversible environmental changes that would be caused by the project. The purpose of the EIS is to encourage those undertaking major projects to consider environmental values in project design. The Environmental Protection Agency points out that an EIS is *not* supposed to be merely a "justification document."<sup>8</sup>

**Equity.** That portion of an ownership interest in real property or other securities that is owned outright, that is, above amounts financed.<sup>m</sup>

**Exactions.** Fee or payment-in-kind required of a developer by a local jurisdiction for approval of development plans, in accordance with state and local legislation regarding the provision of public facilities and amenities.<sup>m</sup>

**Expressway.** A divided arterial highway for through traffic with full or partial control of access and generally with grade separations at major intersections.<sup>a</sup>

**Fee Simple.** The largest and most extensive estate, or full ownership, in property<sup>a</sup>; subject to the limitations of police power, taxation, eminent domain, escheat, and private restrictions of record.<sup>m</sup>

**Floor/Area Ratio.** The ratio of floor area to land area, expressed as a percent or decimal, that is determined by dividing the total floor area of the building by the area of the lot; typically used as a formula to regulate building volume.<sup>m</sup>

**Freeway.** An expressway with full control of access.<sup>a</sup>

**Grade Separation.** A crossing of two highways, or a highway and a railroad, at different levels.<sup>a</sup>

**Overpass.** A grade separation where the subject highway passes over an intersecting highway or railroad; also called Overcrossing.

**Underpass.** A grade separation where the subject highway passes under an intersecting highway or railroad; also called Undercrossing.

**Growth Management.** The public sector's control over the tim-



ing and location of real estate development by various means, including legislative and administrative.<sup>m</sup>

**Highest and Best Use.** The most productive use, reasonable but not speculative or conjectural, to which property may be put in the near future.<sup>a</sup>

**Highway, Street or Road.** A general term denoting a public way for purposes of vehicular travel, including the entire area within the right-of-way.<sup>a</sup>

**Arterial Highway.** A general term denoting a highway primarily for through traffic, usually on a continuous route.

**Belt Highway.** An arterial highway for carrying traffic around an urban area or portion thereof.

**Bypass.** An arterial highway that permits traffic to avoid part or all of an urban area.

**Divided Highway.** A highway with separated roadways for traffic in opposite directions.

**Major Highway.** An arterial highway with intersections at grade and direct access to abutting property, and on which geometric design and traffic control measures are used to expedite the safe movement of through traffic.

**Radial Highway.** An arterial highway leading to or from an urban center.

**Through Highway.** Every highway or portion thereof on which vehicular traffic is given preferential right-of-way, and at the entrances to which vehicular traffic from intersecting highways is required by law to yield right-of-way to vehicles on such through highway in obedience to either a stop sign or a yield sign, when such signs are erected.

**Impact Fee.** Charge levied (on developers) by local governments to pay for the cost of providing public facilities necessitated by a given development.<sup>m</sup>

**Infrastructure.** Services and facilities provided by a municipality, including roads, highways, water, sewerage, emergency services, parks and recreation, and so on. Can also be privately provided.<sup>m</sup>

**Interchange.** A system of interconnecting roadways in conjunction with one or more grade separations, providing for the movement of traffic between two or more roadways on different levels.<sup>a</sup>

**Internal Rate of Return (IRR).** The discount rate at which investment has zero net present value (that is, the yield to the investor).<sup>m</sup>

**Just Compensation.** That payment required by law for the loss sustained by the owner as a result of taking or damaging private property for highway purposes.<sup>a</sup>

**Lease.** A contract that gives the lessor (the tenant) the right of possession for a period of time in return for paying rent to the lessee (the landlord).<sup>m</sup>

**Market Value.** The highest price for which property can be sold in the open market by a willing seller to a willing purchaser, neither acting under compulsion and both exercising reasonable judgment,

both being fully aware of the highest and best use to which the property can be put.<sup>a</sup>

**Metropolitan Planning Organization (MPO).** The regional organization, comprised of principal elected officials of general purpose local governments, which carries out provisions of Federal law relevant to transportation planning. These require "that each urbanized area, as a condition to the receipt of Federal capital or operating assistance, have a continuing, cooperative, and comprehensive transportation planning process that results in plans and programs consistent with the comprehensively planned development of the urbanized area." (23 CFR Ch. I Section 450.100)<sup>f</sup>

**Official Map.** A map legislatively adopted by a municipality which reflects its decision to locate streets, parks, or other facilities at the places indicated on the map and to condemn and acquire the property later as needed. The designation operates as a reservation only: the aim is to keep the areas which will be needed for urban expansion free from impediments to future municipal use, rather than to keep them free from any use at all. The map provides a prohibition against unauthorized improvements and can be enforced by injunctive relief and denial of the right to compensation for these improvements.<sup>9</sup>

**Parcel Plat.** A map of a single parcel of property or portion thereof needed for highway purposes, showing the boundaries, areas, the remainder, improvements, access, ownership, and other pertinent information.<sup>a</sup>

**Parkway.** An arterial highway for noncommercial traffic, with full or partial control of access, and usually located within a park or ribbon of parklike developments.<sup>a</sup>

**Planned Unit Development (PUD).** Land development larger than a stated minimum size which is planned, reviewed, and approved as a unit. Because the PUD technique allows planners and development proponents to bargain over specifics of the proposal, it generally permits greater flexibility than conventional zoning. For example, a developer may be allowed to cluster development on a part of the tract at slightly higher average density for the entire tract than conventional zoning would authorize, provided additional amenities are included in the open space made available by clustering the dwelling units.<sup>8</sup>

**Rational Nexus.** A reasonable connection between impact fees and improvements that will be made with those fees. Jurisdictions must be able to justify the fees they charge developers by showing that the fees will be spent on improvements related to the development. For example, a fee of \$25.00/ft<sup>2</sup> charged for a shopping center might not be justifiable if it is to be used for building an addition to the local elementary school. It might be justified, however, if it will be used to improve roads near the shopping center because of the additional traffic that the shopping center is likely to generate.<sup>m</sup>

**Right of Access.** The right of an abutting land owner for entrance to or exit from a public road.<sup>a</sup>

**Right-of-Way.** A general term denoting land, property, or interest therein, usually in a strip, acquired for or devoted to transportation purposes.<sup>a</sup>

**Right-of-Way Abandonment.** The relinquishment of the public interest in right-of-way or activity thereon with no intention to reclaim or use again for highway purposes. Sometimes called Vacation.<sup>a</sup>

**Road.** A general term denoting a public way for purposes of vehicular travel, including the entire area within the right-of-way.<sup>a</sup>

**Frontage Road.** A local street or road auxiliary to and located on the side of an arterial highway for service to abutting property and adjacent areas and for control of access.

**Local Road.** A street or road primarily for access to residence, business or other abutting property.

**Toll Road or Toll Tunnel.** A highway or tunnel open to traffic only upon payment of a direct toll or fee.

**Setback.** The part of zoning regulations restricting building within a specified distance from the property frontline or edge of the public street; thus, the structure must be set back a given number of feet from the frontline.<sup>m</sup>

**Special Assessment.** A tax method in which all or part of the cost of a specific facility (such as a road improvement, sewer, or water system) is charged to the adjacent benefited property. The tax charged each property owner is usually proportionate to the distance for which the facility abuts the property.<sup>8</sup>

**Subdivision.** Division of a parcel of land into building lots that can also include streets, parks, schools, utilities, and other public facilities.<sup>m</sup>

**Subdivision Regulation, Conventional.** Requirements imposed on the landowner who wants to subdivide a tract of raw land into several lots for sale or building development. These regulations vary widely in scope but generally include basic standard specifications for the preparation and registration of a plat, and for the provision of public improvements such as roads, drains, and utilities. They are often enforced by requiring the developer to post performance bonds.<sup>8</sup>

**Subdivision Techniques: Mandatory Dedication of Land or Capital Facilities.** A requirement placed on the subdivision developer that a portion of the land under development be set aside for public use (such as a park) or that certain facilities be provided (such as sewers) in an effort to make new residential development provide more of the support services needed by the residents.<sup>8</sup>

**Taxation: Preferential (agricultural land, etc.).** Preferential (lower) tax on undeveloped land offered as an inducement for the owner to maintain it in its undeveloped state. The California Land Conservation Act of 1965, for example, authorizes the counties to enter into contractual agreements with owners of qualified lands.

In exchange for the preferential taxation, they must agree to restrict the use of the land to agricultural purposes for at least 10 years. Thirty-four states now have statutes allowing Use Value Taxation of agricultural land, and 10 of these have similar provisions for open lands as well in an attempt to provide a type of preferential taxation for these land uses.<sup>8</sup>

**Transfer of Development Right (TDR).** A transaction in which the unused rights to develop, belonging to one parcel, are separated from that parcel and transferred (usually sold) to another parcel which can then be developed more intensely than was previously allowed. Usually transferor and transferee sites are designated by district or characteristics (e.g., historic sites). The parcel from which the development rights have been removed cannot be developed to a greater intensity, and this restriction of being able to develop only to the extent of the retained development rights becomes a permanent legal encumbrance on the land.<sup>8</sup>

**Transportation Improvement Plan (TIP).** A staged multi-year program of transportation improvements including an annual or biennial element. It is normally adopted by a Metropolitan Planning Organization and relevant transportation agencies.<sup>r</sup>

**Zoning.** Widely used land-use control device which seeks to segregate incompatible land uses into separate geographical zones. Within each zone controls are placed on the types of use and structure allowed, and frequently more detailed regulations are also imposed such as minimum setbacks and minimum lot sizes. Traditionally, zoning has been concerned with the location and use of land, leaving the timing of development to the owners.<sup>8</sup>

**Zoning, Conditional.** An agreement in which the landowner promises to limit the type of land use on his property, dedicate property to public use, or in some other way restrict the use and enjoyment of the property in order to obtain a favorable rezoning decision from the zoning authority. Both conditional zoning and contract zoning are frequently lumped together as "zoning with conditions," although in conditional zoning agreements the municipality does not commit itself to the desired rezoning as it does in contract zoning.<sup>8</sup>

**Zoning, Contract.** An agreement legally binding on both a landowner and a municipality in which the landowner subjects the property to certain restrictions in exchange for a favorable rezoning of that property by the municipality. (See "Zoning, Conditional.")<sup>8</sup>

**Zoning, Flexible (also Cluster Zoning, Average Density Zoning).** A zoning regulation that allows for variations in location and density of development on a site so long as the overall development does not exceed a total number of units or an overall density. This technique is frequently used to allow for protection of environmentally sensitive areas within the site by the clustering of development on other parts of the site.<sup>8</sup>

# APPENDIX B

## DELAWARE POLICY IMPLEMENT

Issued by OFFICE OF THE SECRETARY	POLICY IMPLEMENT  STATE OF DELAWARE DEPARTMENT OF TRANSPORTATION	P. I. NUMBER S-20
REFERENCES:		ISSUED:  5-22-92
		REVISED:
		EXPIRES:
Subject: SR-1 CORRIDOR PRESERVATION PLAN		Sh. 1 of 11
<p><b>PURPOSE:</b></p> <p>The US Route 113/SR-1 Corridor between Dover AFB and the Nassau overpass is a vital link in the North-South transportation system of Delaware. In order to maintain its function as a principal arterial for through traffic it is to be designated a limited access highway. In order to maintain safe travel standards along the US Route 113/SR-1 corridor and to preserve the handling capacity of the road, the following Policy Implement is to be added to the Rules and Regulations for Subdivision Streets Manual and the DelDOT Entrance Manual for all parcels with frontage on the SR-1 corridor.</p> <p>Upon the adoption of this Policy, no additional permanent access points or expansion of existing access facilities to abutting property shall be permitted within the Corridor, unless the access is consistent with the Corridor Preservation Plan.</p> <p><b>DEFINITIONS:</b></p> <p>Appeals - Written appeals to decisions of the Corridor Review Committee will be referred to the Assistant Director, Design Support. Second and final written appeals will be referred to the Director of Preconstruction.</p> <p>Corridor Impact Area - The US Route 113/SR-1 Corridor consists of US Route 113 and abutting land and roads within 500 feet of centerline from the Dover Air Force Base (end of Relief Route) to the Milford By-pass and a similar 1,000 feet wide corridor south on SR-1 from the Milford by-pass to the Nassau overpass.</p> <p>Corridor Preservation Plan - The Corridor Preservation Plan outlines the desirable ultimate right of way required for each segment of US Route 113/SR-1 from Dover Air Force Base to the Nassau Overpass, indicates the functional classifications of major intersecting roads and probable locations of future intersections as well as general location of service roads where required. The plan documents existing constraints which limit the potential for right of way widening, such as current land use and zoning, environmentally sensitive areas, and known historical and archaeological resources. In addition the plan outlines</p>		
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<p>requirements for granting temporary access to adjacent land in such a way as to maintain existing capacity. The Plan will, whenever feasibly possible, provide access alternatives to minimize the occurrence of total denial of legal development of impacted properties.</p> <p>Corridor Review Committee - the Committee established by DelDOT to review rezoning and subdivision requests for properties within the Corridor Impact Area. The Committee will include DelDOT's Subdivision Engineer, Real Estate Chief and DelDOT's Kent and Sussex County Coordinator as well as a representative from both the Consultant Engineers and Consultant Planners for the Corridor Preservation Project. DelDOT's Subdivision Engineer shall serve as chairperson and will make the final decision on matters before the committee.</p> <p>Limited Access Highway - A principal arterial that has significant or total control of access, on which no permanent modifications to existing entrances or no permanent new entrances will be granted. Permanent access to abutting property will be by alternative means such as service roads from intersecting highways. Interchanges at important highway crossings are planned for ultimate grade separation. Roads may cross at grade only on a temporary basis.</p> <p>MUTCD - Manual on Uniform Traffic Control Devices of the U.S. Department of Transportation/Federal Highway Administration and available through the U.S. Government Printing Office, Washington DC 20402.</p> <p>Principal Arterial - An important highway that serves predominantly statewide and regional travel at a high level of service.</p> <p>Right of Way Reservation - an area of a site set aside for future acquisition by DelDOT for road widening or construction of service roads in order to preserve the capacity of the existing road. The reservation will become part of the deed restriction for the property and/or be noted on the record plan. The area can be utilized for temporary uses until acquisition initiated by DelDOT.</p>		
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Subject: <b>SR-1 CORRIDOR PRESERVATION PLAN</b>		Sh. 3 of 11
<b>COUNTY COORDINATION PROCESS:</b>  1. DelDOT will recommend to the Kent County and Sussex County zoning authorities that rezonings of land which do not carry a deed restriction providing for the construction of service roads or other provisions for access consistent with the Corridor Preservation Plan should be denied.  2. A DelDOT US Route 113/SR-1 Corridor Review Committee will provide comments on all rezoning requests that are located within the Corridor, consistent with the current Memorandum of Agreement with Kent and Sussex Counties.  3. A preliminary conference between DelDOT and the Applicant will be encouraged in order to ensure compliance with the corridor access criteria. Representation from the County planning office is encouraged at this conference.  4. DelDOT will provide engineering and land use planning consultation to assist land owners and/or developers to bring their proposed developments into conformance with the Subdivision and Entrance Review Criteria listed below at no cost to the applicant.		
<b>REZONING REVIEW CRITERIA</b>  1. All properties located along US Route 113/SR-1 will be subject to the same rezoning process that is currently required by DelDOT and will require a finding with respect to traffic impact. This review will be carried out by the Corridor Review Committee with input from the Inter-governmental Coordination Section of the Division of Planning.  2. In order to conform to the US Route 113/SR-1 Corridor Preservation Plan, adequate deed restrictions must be in place prior to DelDOT finalizing its findings with respect to traffic impact. The deed restrictions shall address such things as mitigation of traffic, phasing, site access and dedication or reservation of rights of way as well as Federal, State and local laws, regulations and ordinances (when appropriate).		
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<b>SUBDIVISION AND ENTRANCE REVIEW CRITERIA:</b>  1. All property located along US Route 113/SR-1 will be subject to the same site plan review process that is currently required by DelDOT and will require an entrance permit. This review will be carried out by the Corridor Review Committee.  2. In order to conform to the US Route 113/SR-1 Corridor Preservation Plan, adequate right of way reservation is necessary to preserve the capacity of the existing road and for future capacity improvements. The Typical Sections (Exhibit Nos. 1A and 1B) illustrate typical right-of-way requirements for urban and rural segments, with and without service roads for access. The actual right of way reservation required for a particular property will be determined by the Corridor Review Committee and will be recorded on the deed and/or become part of the official record plan.  3. All proposed site plans must contain provisions for ultimately converting direct access to controlled access. Such access could be provided by means of:  a) Service roads b) Access to alternative collector roads which intersect with US Route 113/SR-1 c) Combining entrances with adjacent parcels d) Street layout that includes stub end streets to be connected with future adjacent subdivisions  4. If proposed access location(s) are not in conformance with the Corridor Plan or if right of way and access control requirements unreasonably preclude the owner's otherwise legal use of the property, DelDOT must attempt to indemnify the owner through planning for the construction of alternative access, making financial compensation for development restrictions caused, or purchasing property interest including, where appropriate, the total property.  5. Agriculture, landscaping, and parking may be allowed as a temporary use within the setbacks and right of way reserved along the US Route 113/SR-1 corridor. No structures may be		
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<p>built within these areas. Sufficient area must be set aside within the balance of the parcel to meet county parking standards once the reserved right of way is put to use.</p> <p>6. Temporary entrances will be granted where provisions have been made for future conversion to controlled access. Design criteria for temporary access will be as follows:</p> <ul style="list-style-type: none"> <li>a) One curb cut per 500 to 1,200 feet</li> <li>b) In areas where existing driveway spacing is less than 500 ft the minimum distance to a temporary driveway may be reduced to 200 ft</li> <li>c) No access within the distance required for construction of a right turn deceleration lane, or 500 feet, whichever is greater, from an existing intersection</li> <li>d) Design standards will be the same as current DelDOT Entrance Manual standards.</li> <li>e) Access points shall be designed to enable vehicles to leave SR-1 without restriction, queuing or hesitation on the highway.</li> </ul> <p>7. Application for temporary entrance onto the US Route 113/SR-1 corridor at an unsignalized access point shall be rejected if the traffic volumes at the access point meet, or are expected to meet according to five year projections, the criteria for signal warrants set forth in MUTCD.</p> <p>8. Development along the US Route 113/SR-1 corridor that will exceed the capacity of the road will only be approved subject to mitigating improvements being made which may include roadway improvements and/or traffic management agreements.</p> <p>9. No additional median cuts will be allowed on the US Route 113/SR-1 corridor. All access points and service road entrances will be coordinated with the existing median cuts. The only exception will be in cases where a new median cut is proposed to replace one currently in existence.</p> <p>10. Entrance permits on secondary roads will be valid for 6 months after date of issue at which time, if construction has not begun, a new review will be necessary in order for the permit to be reactivated.</p>		
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<p>11. Cooperative shared access agreements between adjacent land owners will be encouraged.</p> <p><b><u>TRAFFIC OPERATION:</u></b></p> <p>DelDOT will monitor traffic operations and implement minor projects, on an interim basis, such as signalization, roadway relocations and intersection improvements that are consistent with the Corridor Preservation Plan.</p> <p>Ultimately, as the need arises, all traffic signals will be replaced by grade separated intersections. In the interim, no additional traffic signals will be allowed on US Route 113/SR-1 except at intersections with major arterials.</p> <p>Signal warrants will be reviewed by DelDOT, in accordance with the current procedure.</p> <p><b><u>DELDOT APPROVAL PROCESS:</u></b></p> <p>All applications for rezonings, subdivisions and entrance permits for projects which are determined to be within the Corridor Impact Area will be subject to review by a special Corridor Review Committee. Due to the detailed review required for these projects applicants will be notified by DelDOT within two weeks of receiving an application as to when a response may be anticipated. Whenever possible the response period will be held to four weeks.</p> <p>A handout will be developed that will be distributed to the Counties and to applicants which will describe the process for approval of projects within the Corridor Impact Area.</p> <p><b><u>RESIDENTIAL AND COMMERCIAL ACCESS REQUESTS:</u></b></p> <p>The precise review procedure required will depend on the Access Level of the particular project under consideration. No projects within the Corridor Impact Area will be approved at the District level. In general terms, straight forward projects which are consistent with the Corridor Preservation Plan will be reviewed by DelDOT's Subdivision Engineer with technical support from the Engineering Consultant. More complex projects, requiring rezonings</p>		
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<p>and reservation or dedication of right of way, etc. will be reviewed by the full Corridor Review Committee. The Subdivision Engineer will determine the level of review required based on the needs of the project.</p> <p><u>ACCESS LEVEL 1 PROJECTS</u> - Projects with requests for access which are consistent with the Corridor Preservation Plan.</p> <ol style="list-style-type: none"> <li>1. Subdivision Engineer will notify applicant that request has been referred to the Corridor Review Committee for review and will forward the application to the Engineering Consultant. Initial response will be issued within two weeks whenever possible.</li> <li>2. Engineering Consultant will assist Applicant with plan development by reviewing the proposed entrance/exit design to ensure that it is consistent with DelDOT's limited access criteria for the US Route 113/SR-1 corridor.</li> <li>3. Upon development of acceptable plan by Applicant, Subdivision Engineer will indicate Plan Approval on the plan and send approval letter to the Applicant. Copy of approved plan and letter will be sent to the District.</li> <li>4. Developer will submit construction security to Permit Supervisor for issuance of the entrance permit.</li> </ol> <p><u>ACCESS LEVEL 2 PROJECTS</u> - Request for access not consistent with the Corridor Preservation Plan, requiring cross easements and/or reservation or dedication of right-of-way to bring into compliance.</p> <ol style="list-style-type: none"> <li>1. Subdivision Engineer will notify Applicant that Access Request has been referred to Corridor Review Committee for review and will forward the application to the Engineering Consultant. Initial response will be issued within two weeks whenever possible.</li> <li>2. Upon determination by the Engineering Consultant representative of the Corridor Review Committee that the application is not in compliance with the Corridor Preservation Plan the Engineering Consultant will distribute</li> </ol>		
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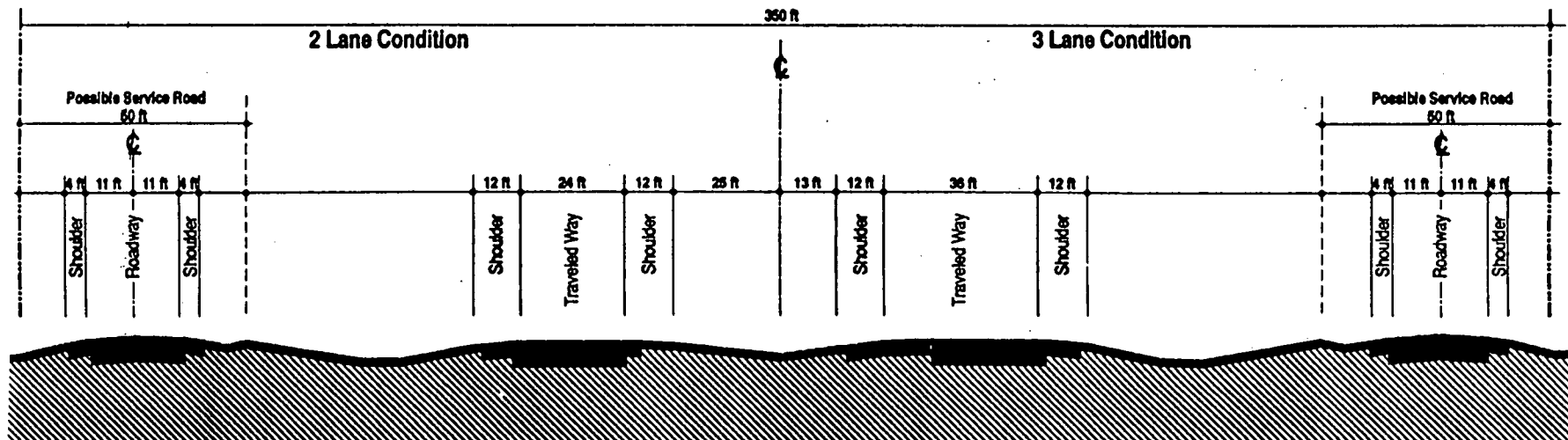
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<p>copies of the access application and supporting data to the other members of the Corridor Review Committee and schedule a meeting to receive comments.</p> <ol style="list-style-type: none"> <li>3. Subdivision Engineer will chair the meeting of the Committee in order to help finalize plan comments.</li> <li>4. The Engineering Consultant will red-line the development plan and transmit the plan with comments to the Applicant, and will continue negotiations as necessary. Transmittal letter will be for the Subdivision Engineer's signature.</li> <li>5. The Engineering Consultant will assist the Applicant with redesign as needed until a plan has been prepared which is satisfactory to the Owner and to DelDOT. These negotiations may necessitate additional meetings of the Corridor Review Committee including meetings between the Corridor Review Committee and the Owner/Applicant.</li> <li>6. Upon development of an acceptable plan, the Engineering Consultant will recommend plan approval to the Corridor Review Committee, and upon acceptance of the plan by the Committee, final approval will be granted by DelDOT's Subdivision Engineer.</li> <li>7. Following development of an acceptable plan by the Applicant, the Subdivision Engineer will transmit approval letter with final approved entrance/exit plan to the Applicant. Copies of approved plan and letter sent to District and Real Estate Department.</li> <li>8. In cases where agreement cannot be reached, the Application will be forwarded, together with the recommendations of the Corridor Review Committee, to the Assistant Director of Design Support. Further appeals will follow the DelDOT chain of command.</li> <li>9. Developer will submit construction security to Permit Supervisor and Permit Supervisor will issue permit.</li> </ol>		
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<p><u>ACCESS LEVEL 3 PROJECTS</u> - Project is submitted to DelDOT for review in accordance with County Subdivision Review Process. (This is prior to request for access approval and is typically a request for a large commercial business, or a major subdivision requiring an internal street system.)</p> <ol style="list-style-type: none"> <li>DelDOT will attend the County Subdivision Review meeting and notify the applicant that the plans will have to be in conformance with the US Route 113/SR-1 Corridor Preservation Plan in order to gain access approval. The Applicant will be notified that specific comments will be forthcoming from DelDOT's Corridor Review Committee within four weeks whenever possible, and plans will be forwarded to Engineering Consultant to start the process.</li> <li>Review will follow steps 2, 3, 4 and 5 of the Access Level 2 process.</li> <li>Subdivision Engineer will issue a letter to the County outlining the recommendations of the Corridor Review Committee. Engineering Consultant will draft letter for Subdivision Engineer signature.</li> <li>Following recordation of a plan which is consistent with DelDOT's comments, the plan can be reviewed for access as a Level 1 Project.</li> </ol> <p><u>REAL ESTATE ACQUISITION PROGRAM:</u></p> <ol style="list-style-type: none"> <li>In order to protect the Corridor from roadside development which will compromise the capacity of the facility, DelDOT will provide compensation to property owners when application of the Corridor Subdivision and Entrance Review Criteria reduces the value of a parcel. DelDOT will purchase the minimum interest in the property which accomplishes the goals of the program and is acceptable to the property owner. The following techniques will be explored in order to bring parcels into conformance with this Policy:</li> </ol>		
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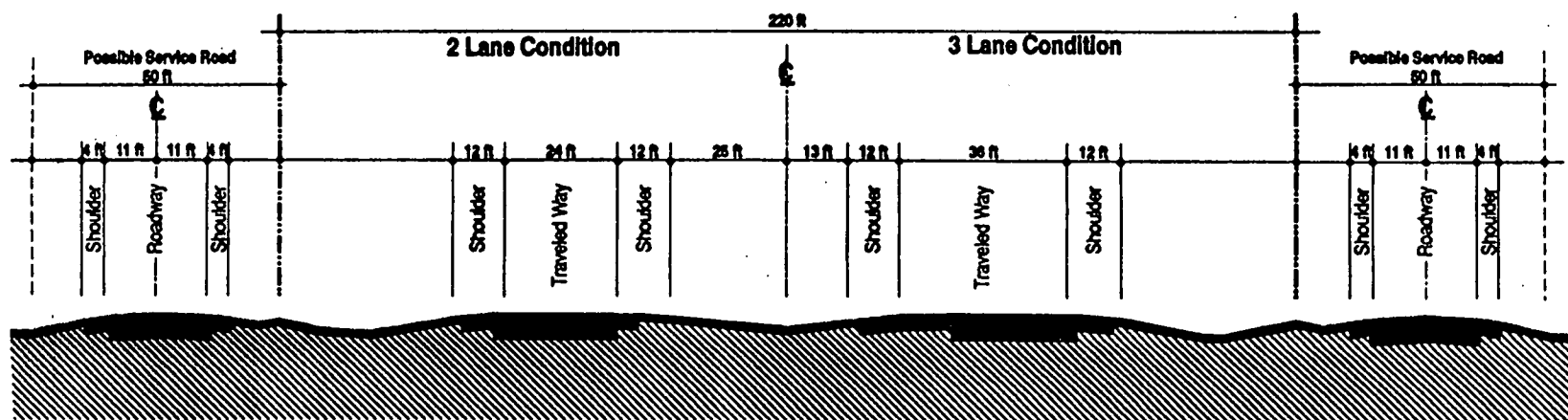
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<p>Purchase of access rights across Route 113/SR 1 frontage          Purchase of development rights          Purchase of easements          Fee simple acquisition as a last resort.</p> <p>The goal of the program is ultimately to have a denied access transportation facility.</p> <ol style="list-style-type: none"> <li>When subdivision property lines were created prior to this Policy and the lots are not configured to allow for corridor right-of-way requirements, including frontage roads where required, the Department may agree to reimburse the owner for engineering costs needed to reconfigure the subdivision to correspond with this Policy.</li> <li>Subdivision and Real Estate Office personnel will monitor the corridor for potential real property purchase opportunities.</li> <li>The Department intends that its advanced acquisition program progress with affected owners on a voluntary basis. If an owner does not elect to convey his or her property rights to DelDOT, then in such an instance, the Department shall not initiate an eminent domain action over the objection of the property owner. When the owner does not object to DelDOT's acquisition of property or property rights but disagrees with the Department's offer of just compensation, then in such case, condemnation action will be employed in order that the matter of compensation be decided by the court.</li> <li>The types of properties to be considered for real property acquisition if other techniques satisfactory to the owner cannot be found which accomplish DelDOT's goals are:             <ol style="list-style-type: none"> <li>Lots legally in existence prior to this Policy Implement, where the owner can successfully demonstrate to the Department a hardship in being unable to reasonably develop the lot as a direct result of the Corridor Preservation Program,</li> <li>Properties at existing intersections and possible future interchanges,</li> <li>Access or development rights in agriculture areas,</li> </ol> </li> </ol>		
Filing Code:    A - Administration    F - Federal Aid    O - Other    S - Sub. Dev. C - Construction    L - (Lab) M. & R.    P - Personnel    T - Traffic D - Design    M - Maintenance    R - Right of Way    U - Utilities		

Issued by OFFICE OF THE SECRETARY	<b>POLICY IMPLEMENT</b>  STATE OF DELAWARE DEPARTMENT OF TRANSPORTATION	P. I. NUMBER S-20
REFERENCES:		ISSUED: 5-22-92
		REVISED:
		EXPIRES:
Subject: <b>SR-1 CORRIDOR PRESERVATION PLAN</b>		Sh. 11 of 11
<p>d) Hardships and protective purchases,</p> <p>e) Other instances where such acquisition will promote the intentions of the Corridor Preservation Program.</p> <p>6. The attached Form (Exhibit No. 2) will be utilized for Inter-Department review routing prior to Departmental approval for real property acquisition.</p>		
Filing Code:    A - Administration    F - Federal Aid    O - Other    S - Sub. Dev. C - Construction    L - (Lab) M. & R.    P - Personnel    T - Traffic D - Design            M - Maintenance    R - Right of Way    U - Utilities		



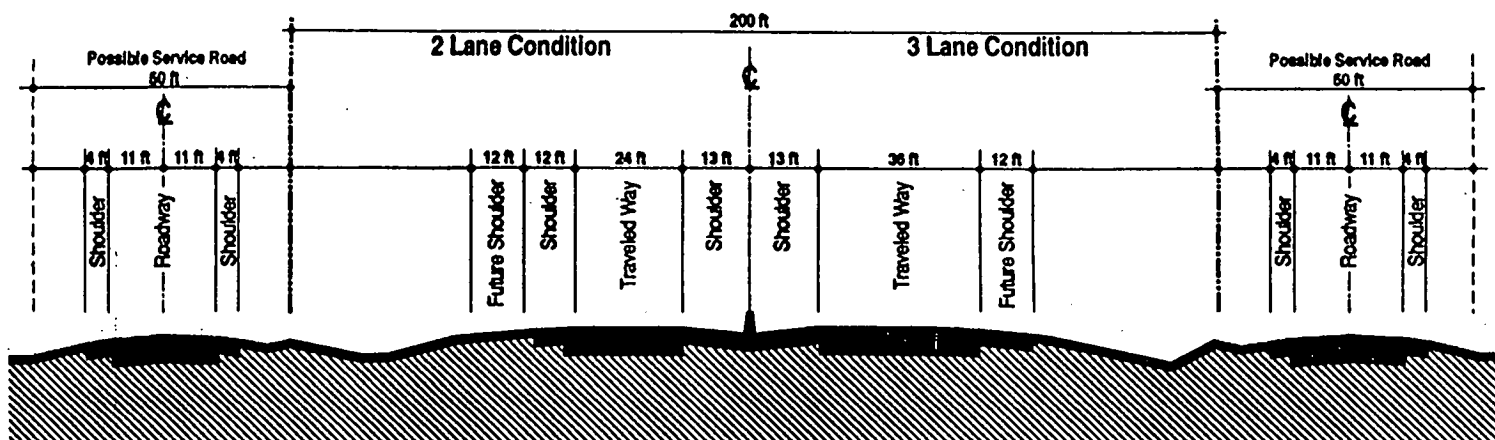


**DESIRED RURAL TYPICAL SECTION**

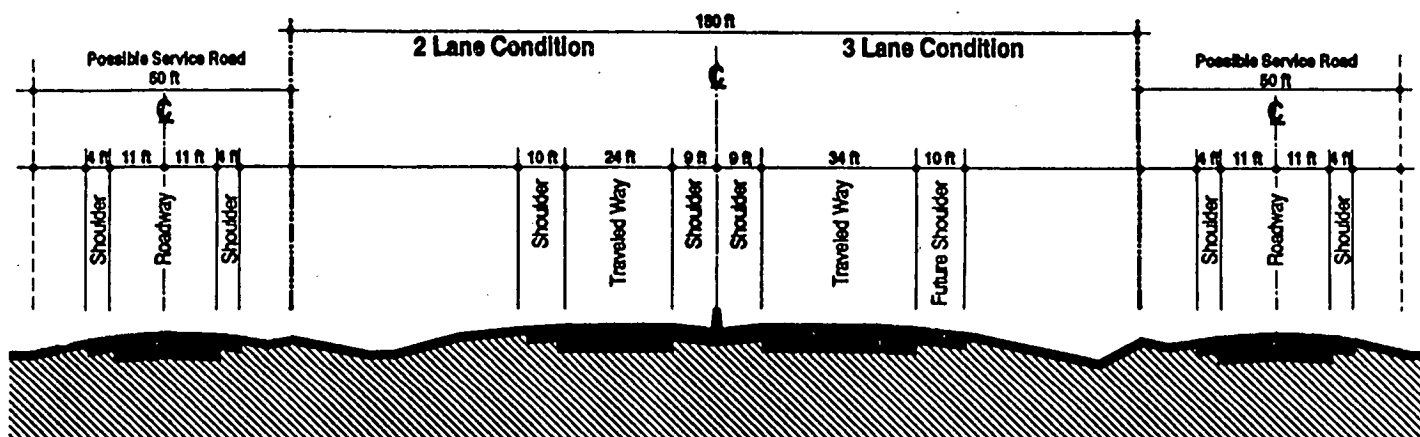


**MINIMUM RURAL TYPICAL SECTION**

**EXHIBIT 1A**



**DESIRED URBAN TYPICAL SECTION**



**MINIMUM URBAN TYPICAL SECTION**

**EXHIBIT 1B**

**EXHIBIT 2****APPLICATION FOR ADVANCED REAL ESTATE ACQUISITION  
US ROUTE 113/SR-1 PRESERVATION CORRIDOR**

The undersigned certifies that we are the owners of the property located as follows:

Tax Parcel Number: \_\_\_\_\_ County: \_\_\_\_\_  
Description: \_\_\_\_\_

Deed Ref: \_\_\_\_\_ Date Purchased: \_\_\_\_\_  
Property Improved \_\_\_\_\_ Property Unimproved: \_\_\_\_\_

We request the Department to:

- 1 \_\_\_\_\_ Purchase the property in its entirety    2 \_\_\_\_\_ Purchase development rights for access control  
3 \_\_\_\_\_ Purchase the portion of the property required for the preservation of the SR-1 Corridor    4 \_\_\_\_\_ Other, explain \_\_\_\_\_  
\_\_\_\_\_

The undersigned agree that "good faith" negotiations will be employed to arrive at a purchase contract equitable to the owner and the the State of Delaware. Should purchase negotiations fail to produce a purchase agreement, the Department will initiate as eminent domain action allowing the court to decide the issue of just compensation.

This agreement represents the sole understanding between the parties and the parties agree to the terms herein by signing this document.

For Owner: \_\_\_\_\_ Date: \_\_\_\_\_

Signed: \_\_\_\_\_ Signed: \_\_\_\_\_

Title: \_\_\_\_\_ Title: \_\_\_\_\_

Address: \_\_\_\_\_ Telephone No: \_\_\_\_\_

For DelDOT: (Recommended action (circle) 1 2 3 4 Other \_\_\_\_\_ )

\_\_\_\_\_  
Subdivision Engineer

\_\_\_\_\_  
Manager, Location and Environmental Studies

\_\_\_\_\_  
Chief, Real Estate

\_\_\_\_\_  
Assistant Highway Director, Design Support

\_\_\_\_\_  
Chief Engineer/Director

Date: \_\_\_\_\_

**THE TRANSPORTATION RESEARCH BOARD** is a unit of the National Research Council, which serves the National Academy of Sciences and the National Academy of Engineering. It evolved in 1974 from the Highway Research Board, which was established in 1920. The TRB incorporates all former HRB activities and also performs additional functions under a broader scope involving all modes of transportation and the interactions of transportation with society. The Board's purpose is to stimulate research concerning the nature and performance of transportation systems, to disseminate information that the research produces, and to encourage the application of appropriate research findings. The Board's program is carried out by more than 270 committees, task forces, and panels composed of more than 3,300 administrators, engineers, social scientists, attorneys, educators, and others concerned with transportation; they serve without compensation. The program is supported by state transportation and highway departments, the modal administrations of the U.S. Department of Transportation, the Association of American Railroads, the National Highway Traffic Safety Administration, and other organizations and individuals interested in the development of transportation.

The National Academy of Sciences is a private, nonprofit, self-perpetuating society of distinguished scholars engaged in scientific and engineering research, dedicated to the furtherance of science and technology and to their use for the general welfare. Upon the authority of the charter granted to it by the Congress in 1863, the Academy has a mandate that requires it to advise the federal government on scientific and technical matters. Dr. Bruce Alberts is president of the National Academy of Sciences.

The National Academy of Engineering was established in 1964, under the charter of the National Academy of Sciences, as a parallel organization of outstanding engineers. It is autonomous in its administration and in the selection of its members, sharing with the National Academy of Sciences the responsibility for advising the federal government. The National Academy of Engineering also sponsors engineering programs aimed at meeting national needs, encourages education and research, and recognizes the superior achievements of engineers. Dr. Robert M. White is president of the National Academy of Engineering.

The Institute of Medicine was established in 1970 by the National Academy of Sciences to secure the services of eminent members of appropriate professions in the examination of policy matters pertaining to the health of the public. The Institute acts under the responsibility given to the National Academy of Sciences by its congressional charter to be an adviser to the federal government and, upon its own initiative, to identify issues of medical care, research, and education. Dr. Kenneth I. Shine is president of the Institute of Medicine.

The National Research Council was organized by the National Academy of Sciences in 1916 to associate the broad community of science and technology with the Academy's purposes of furthering knowledge and advising the federal government. Functioning in accordance with general policies determined by the Academy, the Council has become the principal operating agency of both the National Academy of Sciences and the National Academy of Engineering in providing services to the government, the public, and the scientific and engineering communities. The Council is administered jointly by both Academies and the Institute of Medicine. Dr. Bruce Alberts and Dr. Robert M. White are chairman and vice chairman, respectively, of the National Research Council.

Transportation Research Board  
National Research Council  
2101 Constitution Avenue, N.W.  
Washington, D.C. 20418

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