

# Can the Community Involvement Process Be an Asset to Project Execution in Major Roadway Developments? A Case Study of a Delaware Experience

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After almost 30 years of controversy, the Delaware Division of Highways has begun construction of Delaware Route 1, the major, 47-mi component of a new north-south limited access highway system connecting Wilmington to Dover and points south. The controversy was resolved through a thorough, proactive effort to involve citizens in project planning and design. The process was structured so that the community involvement effort drove the engineering design work. It consisted of a series of cycles of thorough public discussion that commenced before any design work was completed and was repeated before each major decision point was reached. The process was interactive, incorporating stages of problem definition, conceptual solutions, multiple alternative solutions, and refined alternatives and finally selected an alternative. The process met all state and federal guidelines and regulations regarding public participation. Fast resolution of project location and design approval, about 5.5 years from commencing location study to construction, resulted from the effort. This experience suggests that a proactive approach to citizen involvement could benefit highway and transit agencies facing ever more challenging political environments. The experience also reveals a tangential problem in project review procedures of federal agencies, such as the U.S. Army Corps of Engineers and the Environmental Protection Agency, that demand detailed review of project plans after public discussion has occurred.

The principal north-south highway in Delaware and the DelMarva Peninsula is US-13 extending from north of Wilmington to the Chesapeake Bay Bridge Tunnel in Virginia on the south. A high percentage of the state's north-south truck, commuter, and recreational traffic now uses US-13 because it is the only dualized highway from Wilmington to south of Dover. The highway is generally four-lane, having essentially uncontrolled access along its outer edges and frequent left turn openings through the median. It was largely completed in its present form in 1952. Figure 1 illustrates the project area.

Many attempts have been made to improve the vehicular capacity of the corridor. Early efforts to improve capacity were concentrated in the Dover area. In 1958 a study sponsored by the Delaware Department of Transportation Division of Highways (DelDOT) resulted in the development of three alternative preliminary designs for a Dover Bypass.

DelDOT took no action, principally because the necessary authority to condemn and construct controlled access facilities in Delaware was not in effect at that time. (The absence of this authority has a long and interesting history, dating to T. Coleman DuPont's decision to construct the highway in 1911 as an economic development project in which roadway edge leases/sales would help finance the highway.) It is widely believed that this authority was not granted by the legislature because its denial was useful as a mechanism to block the bypass project.

In 1964 the Delaware State Planning Office prepared the Dover Area State Planning Study recommending construction of a limited access bypass west of the city. This location was believed to best meet expected growth in the Dover area. In 1966 the first public hearing on the Dover Bypass was conducted by DelDOT. Strong opposition was voiced. This opposition to the project consisted of three types. First, farmers objected because the route crossed much active farmland. Second, there was a host of complaints about the proposed alignment from property owners and nearby residents. Third, opposition emerged from retail business owners located on the existing highway who feared a traffic bypass would reduce sales volumes.

An economic study commissioned as a response concluded that the bypass location was appropriate and raised two arguments in favor of the project. To the farmers, the study suggested that increases in land values near the project promised substantial profits (from the ultimate sale and development of their land) for owners of adjacent properties. To the business community, the study argued that the bypass would support continued growth in the Dover area, thereby broadening the market base. This study was not well received.

In 1967, DelDOT commissioned another study to review all previously developed alternatives, refine the preliminary designs, and select several for engineering design development. Thirty-eight alternatives were reviewed. A western bypass was again recommended because it was less expensive, had the highest "user benefit ratio," would best relieve traffic on existing roads, and traversed less prime farmland. The user benefit concept and other aspects of this analysis represented the evaluation system in use prior to the National Environmental Policy Act (NEPA) of 1969. An update of the 1967 economic study drew the same conclusions, that is, that the

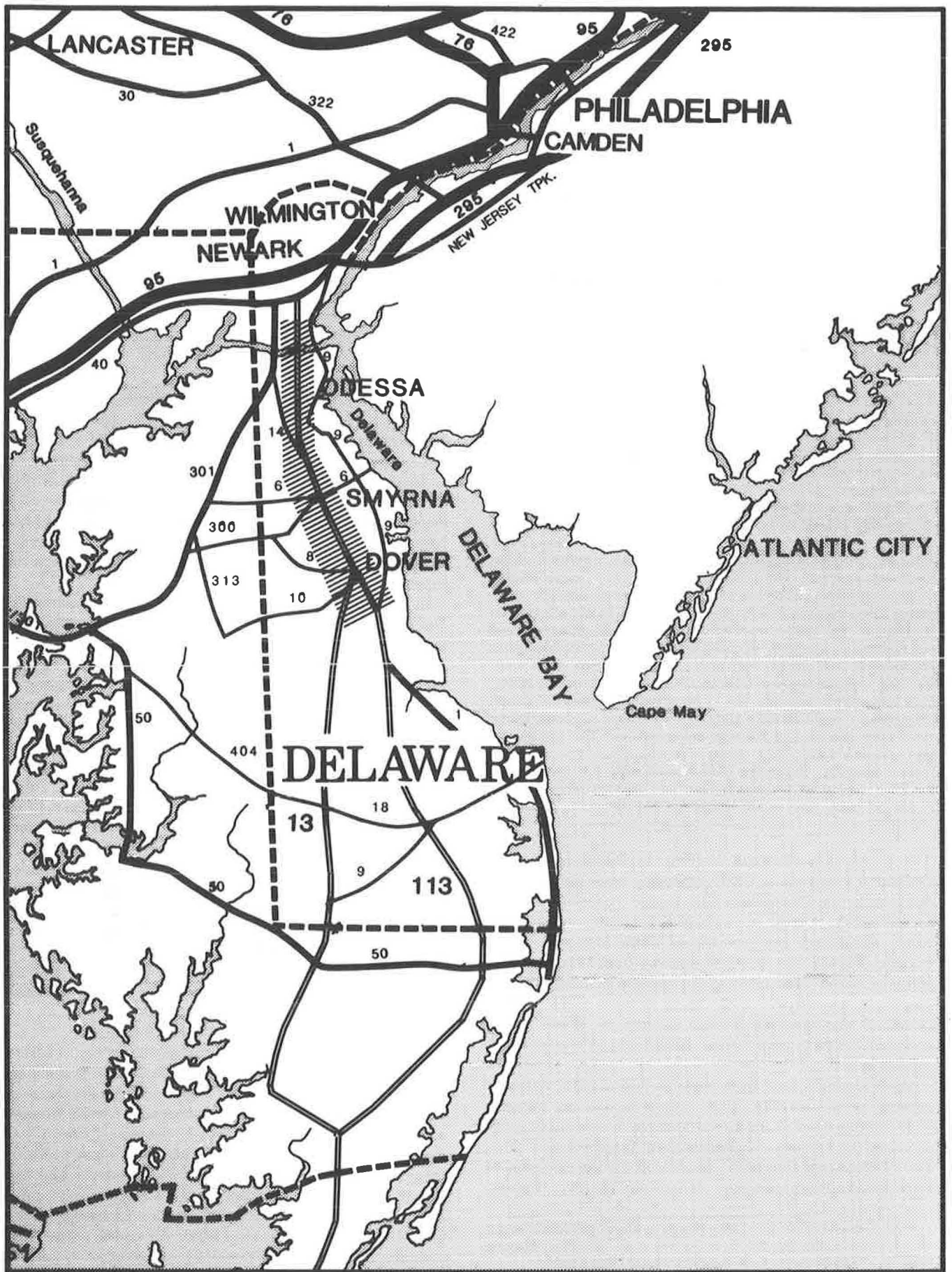


FIGURE 1 The US-13 Corridor Location Study focused on the shaded area extending from south of Wilmington to south of Dover, Delaware.

benefits of the west bypass were optimal. Meanwhile, DelDOT sought the approval of local authorities, and in 1969 both the Dover City Planning Commission and the Dover City Council passed resolutions endorsing the west bypass. DelDOT then held a public hearing.

At the public hearing on the proposed west Dover bypass in the fall of 1969, serious and organized opposition again surfaced. The opposition consisted of farmers, area residents, and business leaders. The farmers, led by a number of agricultural organizations, argued for investigating alternatives that would take little prime farmland and optimize traffic flow on the existing route. They argued vehemently that consideration of such alternatives had been inadequate and that they had not been permitted to participate in the design and evaluation process. Similarly, residents offered detailed complaints about the location of the line. Another contentious point was the projected traffic volumes and distribution. The instinctive reaction of the witnesses was that these forecasts were wrong. As a result of the public hearing, DelDOT launched another study.

In 1970 another engineering firm was awarded a contract to evaluate all studies, reports, alternative alignments, and recommendations made to date. The direction to the consultants had two characteristics. First, improvements were to be made to the designs of 1967. Second, several "new" alignments (i.e., alignments discarded when the 38 alternatives were under consideration) were to be fully evaluated. A refined west bypass, generally closer to Dover than the original, known as the Near West Alternative, was recommended.

By 1970 the problem of north-south highway service in central Delaware had taken on larger dimensions. An internal study by DelDOT systems planners, called the Delaware State North-South Corridor Study, revisited the Dover Bypass and raised the larger issue of improving service in the entire corridor to Wilmington.

In a parallel effort, new north-south highway corridors were developed in internal studies initiating what became known as the Peninsular Thruway Concept. These addressed the issue of a limited access connection from I-95 to Norfolk via the Chesapeake Bay Bridge Tunnel. In 1971 another engineering firm was asked to identify alternative routings for a highway connecting the planned Dover Bypass with I-95. Seven alignments were considered. The preferred one was largely on the west of the existing US-13, as was the planned Dover Bypass. Also in 1971 the first Kent County Master Plan adopted the Dover Bypass as county policy. No action was taken.

By 1974 interest in a fully integrated north-south system had increased and another study was begun. The 1974 study encompassed a comparative review, similar in form to current NEPA documentation, of four alternatives. It recommended construction of a new north-south highway entirely west of US-13 as a toll facility. Considerable, even more formidable documentation of the need for the project and the appropriateness of the selected route was prepared. When the study was completed, DelDOT held a series of public meetings.

Again, considerable opposition was present. However, this time the most frequent theme was the complaint that the public had not been permitted to participate in the design development. This theme was echoed by all project opponents including farmers, residents, and business owners. The state took no further action.

One more effort was made to bring this repetitive saga up to the present. Governor Pierre DuPont formed a study committee consisting of business, agricultural, and community leaders to review the work to date and make recommendations. The committee report, submitted in 1981, recommended the development of a new north-south freeway from I-95 to south of Dover. DelDOT did not act until 1983, when it once again advertised for a route location study for what had been renamed the North-South Relief Route.

## DEVELOPMENT OF A PROCESS

DelDOT was very concerned that the north-south highway location issue be resolved. Contributing factors included worsening traffic conditions, rapid development of potential right-of-way areas, and escalating costs. Past experience had demonstrated that having a well-documented project need and competent engineering design were not enough to resolve the problem. The conventional process of alternatives development based on traffic study and engineering design followed by public review had failed three times, in 1958, 1967, and 1974. The delay in resolving the corridor location had resulted in a much more expensive and politically challenging project. It was critical to approach the subject through a process that would build a public consensus for a specific solution.

Several aspects of the past efforts appear to have contributed to their failure, based on reviews of the public hearing testimony and subsequent legislative discussions. First, the public objected that it had not been consulted in any depth in the development of alternatives. This perception transcended the merits of the engineering designs; many witnesses did not care about the specific designs but focused on the fact that they had "fallen out of the sky" at the public hearing. The learning curve required for the public to become conversant with the project and therefore to be able to comment accurately about it was simply too steep. The presentations were overwhelming.

Second, the need for the project was not well understood. The underlying all-year-round traffic growth was confused with summer traffic conditions during which heavy traffic (bound for the beaches from Rehoboth, Delaware, to Ocean City, Maryland) affected US-13. Relatively subtle issues, such as the loss of capacity in the existing corridor because of uncontrolled edge conditions (largely highway retail) and the rapid increase in the number of intersections requiring signalization, were little understood. Many respondents objected to building the road "so people could get to the beach."

Third, many people had alternative alignment solutions which they believed had not been adequately considered. There were advocates for "widening" the existing road and for alternatives in other locations. The fact that many of these issues had been addressed in the engineering studies was invisible, and arguments by DelDOT that these possibilities had been tested and rejected were not accepted. Citizens did not believe that adequate effort had been made to integrate their ideas.

Fourth, substantive criticism came from the agricultural community. Farmers basically believed that the project—the western alignments developed in 1974—put the heaviest burden on agriculture. This perception was based on fact. As engineering proceeded, locations on higher, well-drained land



were selected because these conditions are superior for road construction. They are also superior for farming. Farmers especially objected to the pervasive idea that farmland was "vacant land." A second objection was raised regarding secondary land use impacts. Agricultural leaders argued that the road would create a new development corridor west of the current urbanized areas along US-13. They feared that residential, commercial, and other nonagricultural land uses would spread around the new corridor. Farmers rejected the argument that they would be well paid for their land. They noted that a reduction in the number of farms would affect the overall stability of all farms because of the loss of suppliers, loss of the efficiencies of shared labor and equipment, and a rise in the inevitable conflicts between farmers and homeowners. Agricultural leaders wanted the existing highway upgraded or an alignment very close to the existing developed corridor.

Finally, there remained objections from the business community rooted in the fear that traffic diversion would hurt business volume for highway merchants. The previous economic impact analysis focused on broad community growth issues such as employment levels, housing production, and population levels. The specific issues of the effects on highway-related and highway-dependent businesses, such as gas stations and restaurants, and the effects on non-highway-dependent businesses located on the highway (whose owners attributed a portion of their business to location) were not addressed. Arguments that broad growth in the communities would assure continued overall success were not persuasive.

Several themes from this review provided guidance in the formulation of the process for the relief route study. These can be characterized as follows:

- Early and genuine involvement in project planning by the general public and by active special interests has considerable value in its own right. The fact that engineering and planning professionals may be able to accomplish quality design work without this involvement and that they can do so expeditiously is not sufficient justification to approach the work that way.
- Public input at the problem definition stage of project development is vital to achieving acceptance of a particular solution later.
- Sincere examination of the suggestions and concerns of affected people is necessary even if in some cases project professionals would otherwise have dismissed these ideas as unworkable. The reasons to adopt or reject suggestions or alternatives must be made clear in an ongoing dialogue. A clearly announced willingness to examine concerns as they are raised is crucial.
- Time should be invested in explaining broad project issues such as traffic service, economic growth, agriculture, wetlands (and other environmental issues), historic resources, and community impacts so the public can converse about these sometimes-conflicting demands. The public's understanding can and should go beyond the immediate concerns of effects near a particular property.

These themes led to the formulation of a process for the location study in which public involvement would drive the planning and engineering effort, rather than the reverse. The process unfolded in the following broad phases:

**Phase 1—planning:** While baseline environmental, socioeconomic, and traffic engineering data were being assembled, senior project staff called on dozens of groups and communities to open the dialogue and solicit ideas about how they would like to participate. This initial effort was followed by the first series of public exhibits at which the problems were reviewed (e.g., traffic growth, loss of capacities on the existing roadway, community growth, etc.) and environmental resources data and conceptual solutions were presented. These conceptual solutions were not alignments, but generic improvement types exploring the significance of various designs (e.g., limited access) and the ways in which these interact with their surroundings. These were presented as fragments, not project plans, to provide the participants with an image of the physical tools available to resolve the traffic problems. At this first project exhibit, participants began to sketch the alignment on their own and provide location and design suggestions. Several of these suggestions were carried into Phase 2.

The principal goals during the first phase were to achieve consensus on the definition of the problem, share the design concepts that would address the problem, share the environmental concerns that designers were obligated to respect, and, most importantly, to make participants aware of the full range of issues [i.e., to heighten town people's awareness of agricultural issues, farmers' awareness of wetland issues, highway business people's awareness of the character of upgrade limited access designs (free of driveways), etc.]. Figure 2 illustrates the work flow through the first and second public exhibits. Note the rounds of smaller meetings before each exhibit, the points at which newsletters were sent, and the relationship to the technical studies.

Internal to the study group, a team system was employed in which diverse professionals (engineers, planners, historians, agricultural specialists, and biologists) worked closely together in both the development of project design and the interpretation of public and resource agency comments.

**Phase 2—preliminary alternatives:** Employing the traffic engineering and environmental and community data developed by the project team and ideas and comments from the public, an array of alternative corridors was developed. The eight corridors are illustrated in Figure 3. Two of these, the "State Line Alternative" (Route A) and the "Route 9 Alternative" (Route G), were suggested by people attending the first exhibit series. The former was judged unlikely to meet traffic needs and the latter required extensive acquisition and filling of estuarine wetlands, which appeared to the project team to be unreasonable given that alternatives with less impact were available. In addition, a full "upgrade" alternative, converting the existing highway to a limited access design with service roads, was developed to test the alternative most attractive to the agricultural community. All three were physically feasible. If the project team wished to drop any of them, the team needed to demonstrate its disadvantages to its advocates. The eight alternatives developed were taken to presentations in the affected towns, to business and agricultural groups, and finally to a second series of public exhibits, as shown in Figure 2.

At the exhibits, a comparative display of the impacts of each alternative (developed using fast and inexpensive linear measurement methods) gave proportionate differences among the direct effects on all key resources. From this display, the

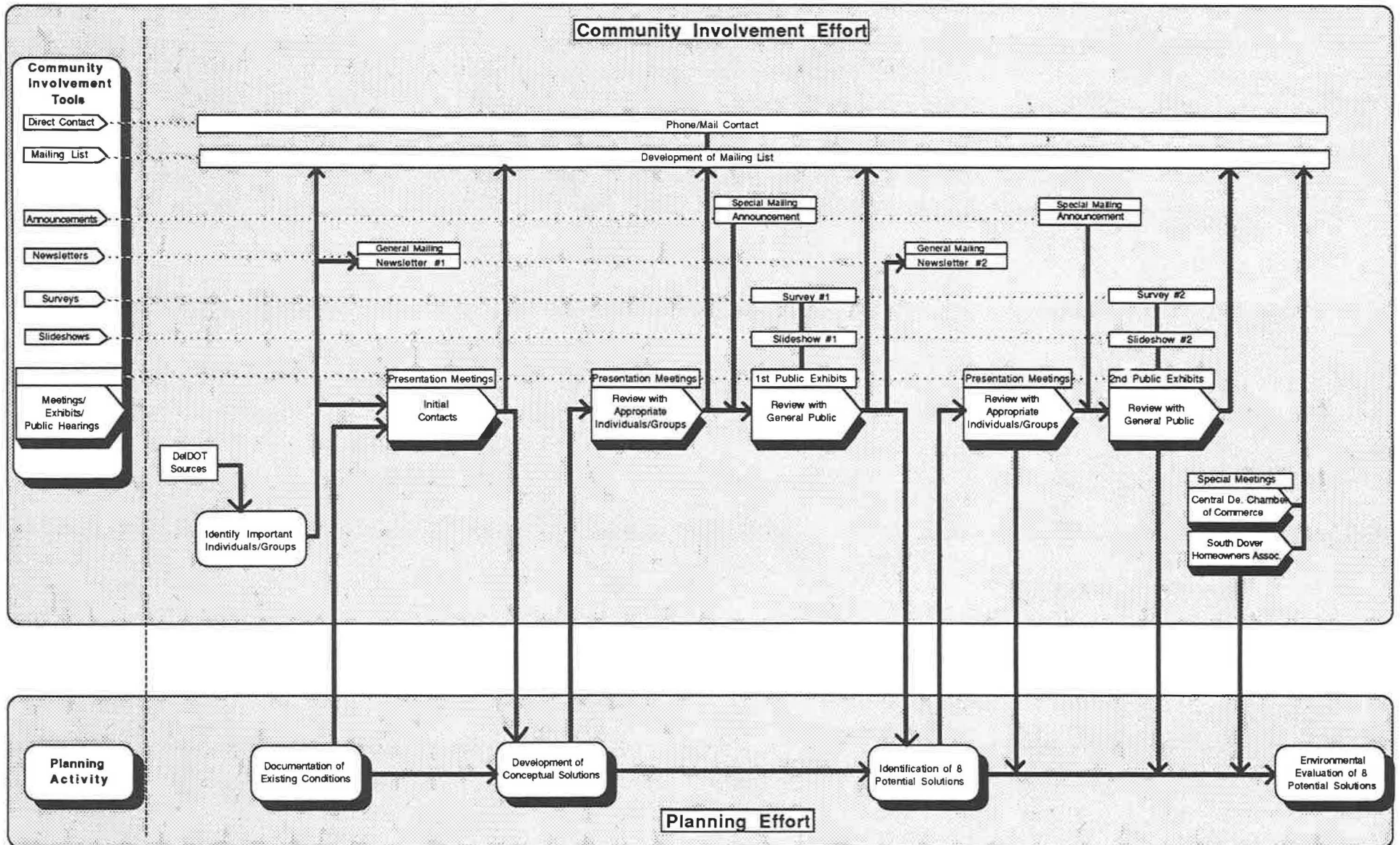
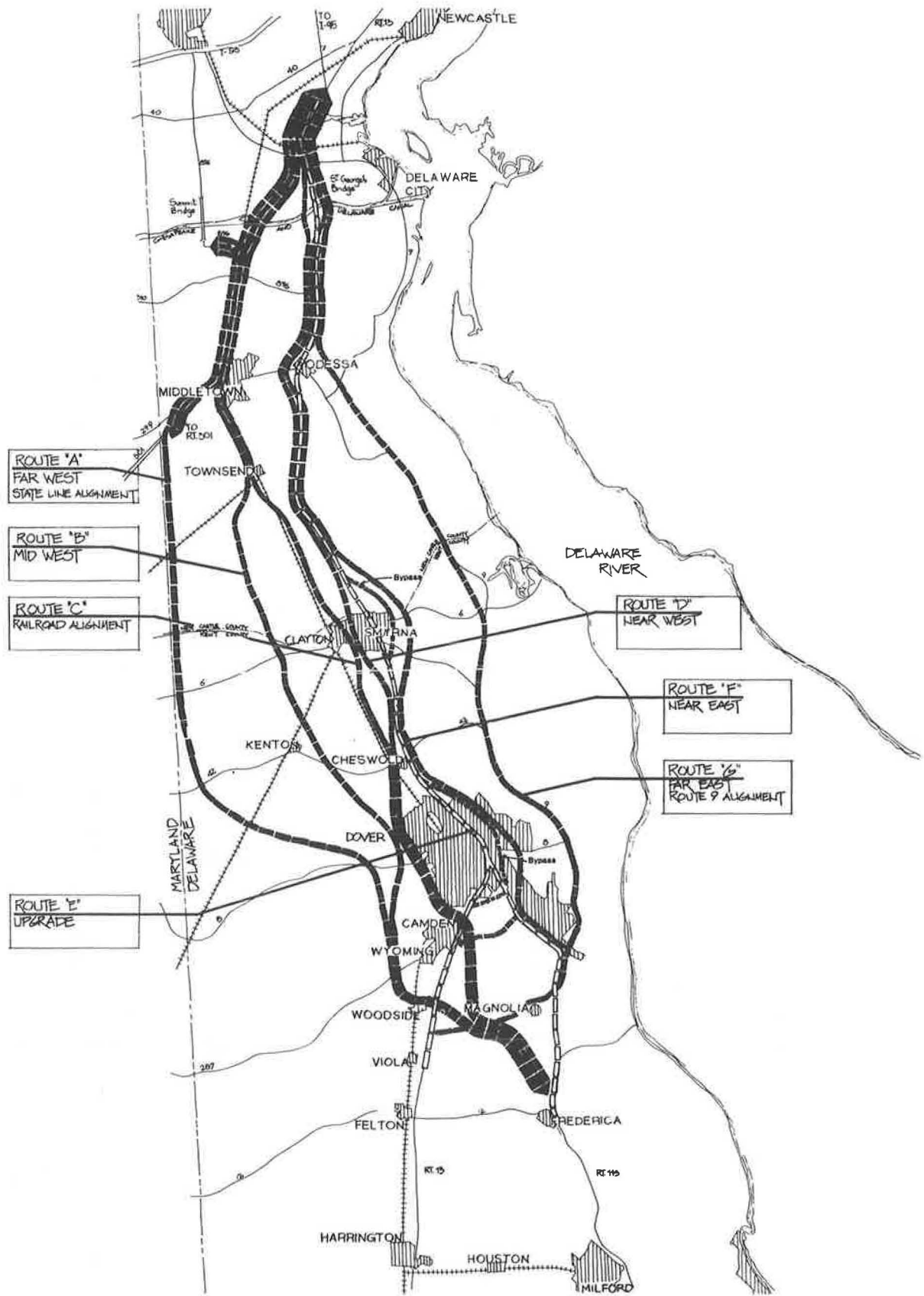


FIGURE 2 Flow of activities in Phases I and II of the project. The flow of meetings in the center of the diagram shows how smaller outreach meetings preceded major public meetings.



**FIGURE 3** The eight corridors developed in Phase II of the study. Two of these alternatives, Routes G and A, were developed in response to requests from participants.



public could readily make key comparisons; for example, the Route 9 Alternative (G, Figure 3) had low relocation and low agricultural impacts but very high wetland impacts, whereas the Upgrade Alternative (E) had very high relocation impacts. The team members made it clear, in hundreds of individual discussions, that their goal would be to balance impacts and thereby respect all the major resources. This concept of balancing impacts became a theme in future discussions and was well received.

Following this second round of meetings and exhibits the team selected three alternatives for full analysis in the Draft Environmental Impact Statement (DEIS).

Phase 3—selected alternatives, DEIS: In order to refine the three DEIS alternatives and review the rationale for their selection, a third round of meetings was held with interested groups, complete with public exhibits. Two of the alternatives were largely new alignments, one east and one west of the existing highway, both relatively close to the urbanized area. Both the new alignment concepts had significant agricultural impacts, but they had more relocation and less agricultural impacts, especially secondary impacts, than alternatives farther from the existing highway. The third alternative was the upgrade alternative which, despite extensive relocation and associated high acquisition costs, was retained because of relatively broad support. It was clear to the project team that if upgrade designs were to be ultimately rejected, a detailed justification based on full preliminary engineering designs, to be prepared for the DEIS, would be needed. Instincts and professional judgment were not enough.

Some months later, when the DEIS environmental documentation was largely assembled and the preliminary engineering refined to reflect the comments received at the start of Phase 3, another round of meetings was held. During this round, the project team was able to display the extensive list of problems that had arisen during the analysis. For instance, the upgrade alternative, because it followed the existing corridor, had potential impacts on properties eligible for or on the National Register of Historic Places. These resources, protected under Section 4(f) of the Department of Transportation Act of 1967, had to be avoided if possible, obligating the team to consider significant off-alignment segments as part of the upgrade concept. These off-alignment sections tended to blur the distinction between "upgrade" and "new alignment" in several key areas. Once illustrated and discussed, most participants accepted the changes resulting from these and numerous other findings of the detailed studies. This public contact effort closed the DEIS phase and preceded by a short period the first formal public hearings on the project. The Phase 3 work flow is illustrated in Figure 4.

Phase 4—location hearing—selection of alternative: This step began with the Location Public Hearings which, like previous project exhibits, were held at three locations on consecutive nights. At this point in the process, the project mailing list exceeded 4,000 participants and not less than 200 individual owners were affected by each alternative. Fifty-five witnesses appeared and approximately 80 written comments were reviewed. Of the witnesses, only two favored the "no build" alternative, approximately 30 wished to express their support for (or opposition to) particular alternatives, and the balance had specific concerns (e.g., access to property, effects of proposed property acquisition) plus other comments (such

as suggesting toll financing for the project). Similar concerns prevailed in the written comments. The public hearing participants were largely a focused group that had immediate concerns about particular alternatives or particular circulation problems associated with them. No participants complained about being uninformed or surprised.

After the hearing, an alternative was recommended by the team to the Secretary of Transportation, Kermit H. Justice, who accepted the recommendation and announced its selection to the legislature three months after the public hearing. The total elapsed time from project inception in late January 1984 to announcement of a selected alternative in February 1986 was just over two years.

The third year's effort focused on further refinement of the selected alternative and preparation of a Final Environmental Impact Statement (FEIS). As is typical of any location study process, the specificity of the concerns increased as plans became more definite. New participants emerged who apparently had not been persuaded that the project was "real." They required and received extensive background information about the origins of the project and the work that had been completed. This step backward in the process was addressed directly and assertions that they were "too late" were avoided.

The workload during the period in which the FEIS was prepared was dominated by negotiations for the various agreements needed from the state and federal review agencies. As several complex issues were involved, including wetland mitigation and archaeological and historic resource mitigation, the FEIS was not approved by the Federal Highway Administration until June 1987.

The high level of engineering detail carried forward from the DEIS allowed DelDOT to receive location approval in August 1987 and set Design Public Hearings for the first section—17 miles from Dover to Smyrna—for September 1987. At the Dover-Smyrna Design Public Hearing, a pattern similar to the Location Public Hearing developed. At the Design Public Hearing, preliminary engineering at a larger scale was displayed to permit accurate judgments about relationships to property lines and distances between roadways and buildings. Forty-seven witnesses testified, and of these more than 30 were concerned that the roadway be moved more to the east over a stretch south of Smyrna. It was possible to make this shift and accommodate these concerns. Only one witness spoke against the project. Design approval was granted by FHWA to DelDOT in early 1988.

## REACHING THE PUBLIC

The US-13 Relief Route community involvement effort had several main purposes. First, it was to provide input to the planning team and assist in its attempt to deliver the best design possible. To accomplish this, the team needed to understand the specific ways in which communities, farmers, business people, and individuals functioned in the project area. Second was to ensure that affected people had ample opportunity to be fully informed. It was crucial that there be as few surprised people as possible because such experiences tend to be harmful to major projects. The third purpose was to educate the public about the often-observed factors affect-

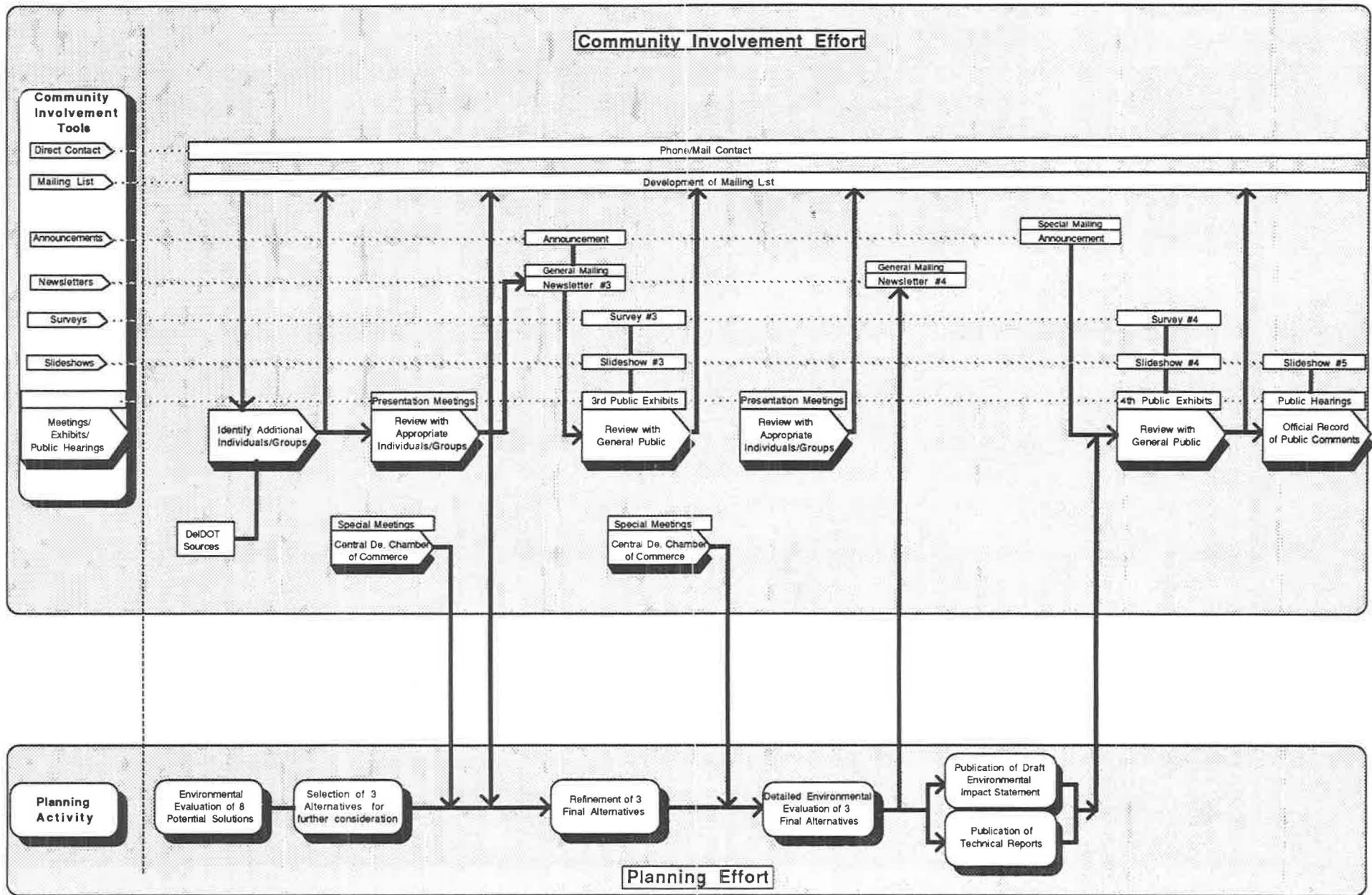


FIGURE 4 Flow of activities from the initiation of Phase III, which commenced with selection of alternatives for full DEIS review, through the Location Public Hearing. A similar flow was carried into Phase IV when the FEIS was completed.



ing project location and design, such as engineering issues and environmental constraints, so that participants could fully understand the results of the effort.

The techniques were not individually unique. Their application, however, was intense because thoroughness was crucial to its success. The principal elements were as follows:

- **Outreach meetings:** The team made regular presentations to local governments, businesses, and farm organizations as well as other groups such as Rotary, Ruritans, and chamber of commerce. This effort was proactive; the project team sought them out early in the process, before alignments had been drawn, and continued to seek audiences with them in the periods prior to each public exhibit. As these meetings progressed, the displays of project materials—project need and approaches, early alignments, and DEIS alignments—became the subjects of the presentations. Through these smaller meetings, a base of participants was developed who became part of the larger public exhibit audiences. In this way, the project team minimized problems arising from being perceived as strangers, gained invaluable insight into local concerns, and provided local leaders with the background information needed to answer constituents' questions. Broadly speaking, the policy was to meet with virtually anyone who wanted to meet with the project team.

- **Public exhibits:** The focal point of each phase of the planning effort was its public exhibit. They were scheduled on three successive nights in Dover, Smyrna, and Odessa, towns central to major segments of the project area. They were in an open house format, similar to a "plans view" or workshop meeting, from 4 p.m. to 8 p.m. Each event typically attracted 300 to 500 persons, for a total average of 1,100 persons per exhibit. The label "exhibit" was useful because it did not predispose visitors to expect either a formal presentation (i.e., speaker and audience) or a "workshop" where a small group would sit around a table. Presentations (slides and individual discussions) did occur on an ongoing basis during the event and workshops were conducted with groups and individuals having issues to review within the format.

The exhibits were always held before major decision points. The first was held before the development of the multiple alternatives; the second was held after the first set of alternatives was developed but before a short list was selected for full environmental study; the third was held before full evaluation of the DEIS alternatives and led to their refinement; the fourth was held when the DEIS was complete, but before the Location Public Hearing, to review results and solicit comments on a preferred alternative; and the fifth and last exhibit series was held on the selected alternative while the FEIS was being prepared and also led to a series of refinements. This timing was crucial because the process was based on the commitment to discuss the project with the public before decisions were made. Public officials and the press were always briefed prior to each exhibit series.

The exhibits were laid out as a series of stations. The first was a reception area where people signed in and newsletters and surveys were distributed. From the sign-in area, each person or family was directed to a 6- to 8-min slide show. Displays included background on the project activities to date (traffic issues displays were retained until very late in the

process), a diagram of the project work flow illustrating the present point in the larger process, a poster-sized list of what will happen next, and lastly, an array of that particular exhibit's primary subject panels. Tables provided not only places to fill out surveys but also places to put copies of alternatives plans on which both staff and visitors could work. These were often used with trace overlays to create accurate notes about issues pertaining to particular properties with the concerned individual. Figure 5 is a photograph of an exhibit underway.

The exhibits were heavily staffed. DeIDOT personnel, including the project management team, community relations staff, right-of-way specialists, and consultants were always present, providing a total of 16 to 18 professionals. The staff was stationed throughout the room and offered explanations of each display, identified individual concerns, and directed people to the best displays and staff to discuss these concerns. The goal was to have a conversation (usually more than one) with every visitor. Elected officials often attended as well. Frequently a legislator introduced a constituent to team members and then stayed as he or she expressed the problem or concern. This pattern reflected the fact that the team had repeatedly stated that the work would be done openly "in a fish bowl" and that there would be no "back door" to project influence. As a result, the Secretary of Transportation and the Director of Highways had very few special meeting requests, despite the large size of the project, and the "special service" was limited to setting up a meeting with the team.

The only objection raised to the exhibit format was the quietly expressed concern of some elected officials that there was no forum from which they could make statements to the crowd. On balance, the team believes the absence of such a forum was an asset.

- **Slide shows:** To overcome the chronic problem of sharing basic background information on the project, a series of short slide shows was prepared. A small room seating 12 to 20 people was set aside and a staff member restarted the program every 8 to 10 min. The slide shows consisted of 60 to 75 slides controlled by a synchronized sound track lasting 6 to 8 min.



**FIGURE 5** At the second public exhibit series, numerous sketches were developed to record specific comments.

The show carried the participant through the problem, the process, the current state of the effort, and what was at issue at that exhibit. By using a "canned" introduction, it was possible for the staff at the exhibits to move individual discussions into much more detail. Questions concerning what the effort was about, why it was occurring, what had transpired thus far, and what could be expected at that exhibit had already been answered. Overall, the amount of time spent on basic project facts was sharply reduced.

- **Project newsletters:** Newsletters were issued at regular intervals throughout the planning and early design phases. They were sent in the periods between major public meetings and provided reports on previous exhibits, progress of the study, and special issues. The newsletters were used as a bridge between major decision points in the process. Subsequent newsletters were mailed during the FEIS phase to describe the selected alternative, note various changes made to it during the period, and apprise the public of the process of final design, property acquisition, and construction. The newsletters have been continued into final design and construction.

- **Surveys:** At each public exhibit, a two-page survey was distributed and collected. It served several purposes. First, it gave the team a detailed, reliable view of what the attendees thought of the ideas under discussion. Second, it served to reinforce the project issues by restating them and engaging participants in the questions at hand. Finally, each survey contained a question regarding the experience of the individual at the exhibit. These surveys were scored and the results reviewed at the team work sessions that followed.

- **Mailing lists:** A mailing list of all participants was assembled. After each exhibit, the list was culled to avoid duplicate mailings and establish the number of new participants. This culling process proved valuable because the staff managing the list was able to ascertain the locations of homes and businesses of new participants. Typically, neighbors of participants who had learned that their areas might be affected would appear at the subsequent exhibit, usually the next night. This reinforced the team's belief that it was critical to constantly restate the background and process of the work. These new participants needed to have a complete understanding of the project.

- **Special studies:** Issues arose around which the team conducted special studies in response to both planning and design concerns. These usually focused on a particular subgroup of the public. One issue illustrates this process and how it was reflected in project engineering.

As has been noted, many highway retail business owners feared that the loss of traffic would affect their business volumes. In order to quantify these effects, a summer survey of patrons was taken. The methodology took into account off-highway and on-highway business locations and met accepted statistical standards. It was developed closely with a special committee organized by the Central Delaware Chamber of Commerce and involved interviewing managers and customers both on weekdays and weekends at more than 80 businesses. By using a system that identified local-to-local, nonlocal-to-local, and nonlocal-to-nonlocal trip types among customers, it was possible to develop assessments of the potential loss of business due to a bypass. The outcome, in

summary, was that business loss from new alignment alternatives would occur for service stations, fast food establishments, and restaurants, but that the loss would be sharply lower than owners estimated. Other business types having a local customer base, such as hardware and clothing stores, were estimated to be largely unaffected or perhaps aided by new alignments because local customers would have better access as a result of the reduction in through traffic.

Protecting the viability of existing businesses was carried into project engineering design. It was apparent that the most successful design concepts were relatively close to the existing highway. This presented an opportunity to create a system of easy exit and reentry to and from the limited access roadway at locations north and south of the towns. As a result, a commitment was made to avoid creation of full interchanges with local roads but instead to make all interchanges directly with the existing highway. This is intended to prevent the creation of new business locations at interchanges, protecting the status of the existing locations. Interestingly this led to a substantial agreement between business and agricultural leaders about the positive effects of alignments very close to the existing highway.

Other special studies were incorporated, including an agricultural impacts evaluation system that gave considerable weight to secondary land use effects, and a number of design studies to reduce roadway impacts in specific locations. Each special study contributed to the quality of the selected alternative and the credibility of the project effort.

## ACHIEVING CLOSURE

The outcome of the US-13 Relief Route study process is that in the fall of 1989 construction began. This time span, of 5.5 years, is reasonably fast for a major new highway project. It was not only necessary to determine and resolve the public's concerns but also to maintain an aggressive pace in project engineering. This allowed the public process leading to the Design Public Hearings to maintain momentum from the location study.

The outreach effort is being sustained through the final phases of design and bid letting and will continue through construction. Issues arising from final design and construction must continually be addressed, and issues relating to later phases of construction must now be resolved. The intensity of the outreach effort compared to the level during design development can now be reduced, but there will always be new people and issues. The DelDOT Division of Highways believes it would be an error to stop communications regarding the project now that construction has begun.

## RELATIONSHIP TO ESTABLISHED PROCEDURES

The US-13 Relief Route planning process conformed completely to both NEPA and FHWA regulations and guidelines. What distinguished the process from earlier studies on this project was the thoroughness of the effort and the commitment to obtain community input prior to each major project

decision. To illustrate its conformance with established regulations and procedures, a brief review of the October 1982 FHWA memorandum "Guidance Material on Public Hearings and Other Public Involvement" from the Director, Office of Environmental Policy, to Regional Federal Highway Administrators is appropriate. This memorandum represents a compilation of both regulations and recommended policy.

On the purpose of public involvement the memorandum says the following:

- "An SHA's actions can merit public confidence as well as assist in expediting the highway development process through early identification and resolution of issues."
- "To be effective, public involvement needs to be an integral part of the highway project development process, beginning at the earliest stage and ensuring adequate opportunity for citizen input and an exchange of views through project development."

This section goes on to say that other necessary elements of an effective public involvement program include provision of sufficient agency resources to use the views expressed, impart sufficient knowledge, and use appropriate techniques. Clearly this fundamental objective can best be met through a system providing for public input at regular intervals from before project plans are formulated through the decision sequence.

The memorandum encourages active participation by local government and goes on to support alternative involvement procedures that should

- "Be comprehensive with coverage throughout project development,"
- "Be consistent with . . . all applicable FHWA regulations,"
- "Correlate public involvement activities other than hearings with the environmental process (e.g., public meetings at the time environmental studies on alternatives are available for review),"
- "Provide the opportunity for informal interaction," and
- "Provide adequate information and sufficient time for citizens and other agencies to familiarize themselves with a proposal prior to a meeting or hearing."

The Relief Route process fully reflects these recommended procedures. It was comprehensive, extending throughout the effort; it was consistent with regulations; it very closely correlated public review with the actual study process; it provided extensive opportunity for informal interaction; and it provided complete access to virtually all the information affecting the decisions on a timely basis. Similar parallels can be drawn with recommended public hearing procedures, public notices, public meeting forms, recommended workshop type settings, newsletters, mailing lists, maps, and right-of-way information as described in the guidance memorandum.

## REPLICATING THIS PROCESS

The close linkage maintained between the public input and project development involved a very high level of effort

compared with past experience in Delaware. The willingness to devote staff and other resources to maintaining this process and defining the project in terms of the sequence of public involvement rather than in terms of the engineering development process were vital to the effort's success.

This is a repeatable process. It is possible to involve the public in the project definition phase of work, the alternatives development phase, the environmental review phase, and in the selection of a preferred alternative. The effect, in the case of the Relief Route process, was a relatively short project development time and a substantial public consensus for the project. Several features of this effort warrant consideration:

- The Secretary of Transportation of Delaware, Kermit H. Justice, at his announcement of the study to the legislature in January 1984, said, "I have instructed the team to ask questions first and draw lines later." This characterization, and subsequent support for the process from FHWA, was very valuable. There was a visible commitment to give community concerns a lead role in developing the project.
- There was a commitment to spend more dollars and staff time to meet the needs of the process. While unquantifiable, it is possible that, by resolving what will be done fairly quickly, overall project costs were reduced.
- The effort was proactive. Time was sought on the agendas of many official bodies, special interest groups, and even some social organizations. The effectiveness of the discussion is clearly enhanced by seeking these audiences rather than waiting until some concern arises and an invitation is made. Similarly, when difficult groups or special problems arose, the team sought and conducted appropriate sessions.
- There were many discussions of broader transportation, land use, environmental, and economic issues. The context of the project is important.

## PROBLEMS AND WEAKNESSES

The US-13 Relief Route community involvement process was not free of problems. The most vexing was the emergence of serious issues late in the study process. For example, the South Route 13 Business Coalition came into existence as a result of serious objections to the upgrade-type design selected for the western segment of the project south of Dover. Despite the extensive outreach effort made during the design phases, the specific concerns and their seriousness did not surface until after the DEIS was completed and a selected alternative identified. The team assumed that the selected design was the most desirable to these business owners because, generally, this had been the view of highway business people during design development. Such assumptions, though usually correct, are not always. These problems could have been avoided by a still-more energetic effort to gather comments.

Another area of difficulty was the interaction between review agencies, such as the Environmental Protection Agency, and the project. EPA had no stake in the process of project design and focused only on its mandated concerns. In this case, these were largely wetland impacts. EPA raised the question of making significant alignment changes, which in some instances would have led to changes to carefully negotiated project



elements. It was not sufficient for EPA purposes that the agency had been involved from project inception, that wetlands received considerable attention in the process of design development, and that a comprehensive mitigation program had been developed. The process could have been improved by even greater EPA involvement earlier in the effort. This would require a significant revision in U.S. Army Corps of Engineers' procedures that now provide for substantive review (for Section 404 permits) to occur only when a specific proposal has been fully detailed. The current procedure involves

a sequence in which engineering, wetland delineation, and mitigation plans are fully prepared before meaningful review takes place. The public cannot consistently distinguish among these agencies (i.e., it's all part of the "government") and is likely to view major project changes coming late in the process as part of an effort to subvert the carefully developed plan. Such late changes can be devastating to credibility.

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