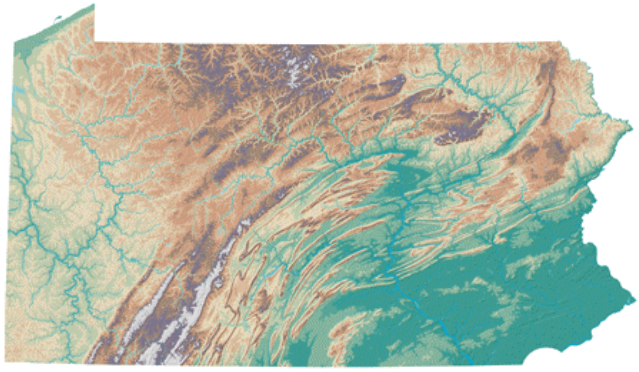
STATE TRANSPORTATION ADVISORY COMMITTEE

COMMONWEALTH OF PENNSYLVANIA

STREAMLINING PENNDOT's PROJECT DELIVERY PROCESS



Final Report

PENNSYLVANIA STATE
TRANSPORTATION ADVISORY COMMITTEE
WORK ORDER #2

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ACKNOWLEDGEMENTS

Gannett Fleming, Inc. expresses their appreciation to the members of the TAC Study Task Force for their guidance, insight and active participation toward the successful completion of this study. Their interest, dedication, and willingness to participate in working discourse were a key element to the identification of project delivery issues and formation of the study recommendations. Gannett Fleming also wishes to thank those individuals from across the Commonwealth who contributed to the success of this study by openly sharing their experience and knowledge of this subject.

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1.0 EXECUTIVE SUMMARY

1.1 Purpose of Report

The Pennsylvania Transportation Advisory Committee (TAC) has developed this report to identify common issues affecting the efficient delivery of transportation projects in the Commonwealth.

Previous TAC studies resulted in the identification of delays in the delivery of projects in the Pennsylvania Department of Transportation (PENNDOT) bridge program. TAC decided to pursue this study to more completely determine those issues affecting delivery of transportation improvements across the Commonwealth.

Specifically, the report attempts to identify inefficiencies and delays of transportation project delivery related to the fulfillment of required environmental compliance during the preliminary engineering phase of project development. The report also attempts to determine if these findings are similar to the experiences and expectations of those involved in the delivery of transportation projects within the Commonwealth. Finally, due to the high level of interest and urgency expressed by the TAC Task Force to affect change, the report has identified a number of issue specific considerations and some broad-based strategies for moving forward.

1.2 Environmental Streamlining on the State and National Stage

In August 2000, a random nationwide survey by the American Highway Users Alliance was performed to determine pubic attitudes toward traffic congestion, road building and possible approaches to building and improving roads more expeditiously. The survey of 600 registered voters found public opinion supported the idea of streamlining transportation project delivery. Findings of the survey included:

- 59% of those surveyed believe it takes too long to build roads. Only 7% of those surveyed indicated that roads are built too quickly.
- 60% of those surveyed believe decisions about building roads need to occur more quickly.
- 66% of those surveyed believe the environmental review process for road projects takes too long and needs to be streamlined. Only 8% of the respondents felt the environmental review process should be lengthened.
- 65% of those surveyed agree that the environmental process needs to be changed and that the states should do more of the necessary environmental reviews.

Obviously, issues of project delivery delay, especially those related to the environmental review aspects of project development, are highly visible on the national stage. Section 1309 of the federal Transportation Equity Act for the 21st Century mandates the development of

federal initiatives on environmental streamlining; actions which seek to improve the ability of federal and state transportation partners to efficiently comply with federal and state environmental laws, regulations, policies and orders in delivering their transportation programs.

In Pennsylvania, PENNDOT has been working on environmental streamlining activities for a number of years. They were among the first state transportation agencies in the nation to develop standardized project development processes and a framework to provide for efficient agency coordination. PENNDOT has also been a leader in developing innovative mitigation strategies, information databases, and other tools in an attempt to complete the development of transportation projects as efficiently as possible. However, the TAC has recognized that improvements related to the environmental review process of project development are still possible in Pennsylvania. Delays and costs increases related to the environmental review process continue to affect the efficient completion of transportation projects, generating adverse impacts on public safety, mobility and access and the efficient use of public funds. The TAC believes improvement in the efficiency of project delivery can not only reduce these adverse public impacts, but can be accomplished in partnership with environmental stewardship of the Commonwealth's rich natural, cultural and socioeconomic resources.

Finally, the Secretary of Transportation for the Commonwealth was recently appointed chairman of the American Association of State Highway and Transportation Officials (AASHTO), a professional organization representing all state transportation agencies across the United States. This organization has significant influence on the transportation industry at both the federal and state levels. As part of his agenda in leading the efforts of AASHTO, the Secretary has identified environmental streamlining as one of his three major focus areas.

1.3 Report Methodology

The focus of this report centers on the identification of issues that affect the efficiency of the project development phase of transportation project delivery in Pennsylvania. Interviews were conducted with PENNDOT personnel, resource agency professionals, regional and community planners and consultants from across the Commonwealth who serve as partners in the development of transportation projects. These interviews were supported by additional research and profiles of actual transportation projects to depict the actual inefficiencies caused by the identified project development issues. Additional research on streamlining activities of other state transportation agencies was also conducted to identify common issues and innovative improvement strategies.

While the initial scope of this report simply addressed issue identification, the high level of interest in this subject by the TAC led to the development of a set of initial recommendations for further consideration by PENNDOT. These recommendations suggest some broad-based strategies and issue specific ideas which may have applicability and result in project delivery improvements.

1.4 Identification of Major Issues

Based on the interviews and research conducted, 17 issues were identified which adversely impact the efficient delivery of transportation projects in Pennsylvania. Project delivery issues were identified within three classifications:

- **Process Issues** – those issues directly related to completion of the project development phase of project delivery in Pennsylvania.
- **Institutional Issues** – those issues involving the connection of other processes, organizations and administrative procedures that operate outside of but affect the efficient completion of the project development phase of project delivery.
- **Legislative Issues** – those issues involving compliance with federal environmental legislation.

After identification of the common issues, the TAC Task Force completed an evaluation analysis to develop a prioritized list of the most important issues to address in addressing project delivery inefficiencies. The following list includes the 5 most important project delivery issues as determined by the TAC:

1. **Linkage of Project Planning to Project Development:** This issue relates to the disconnect which exists between the conceptualization of a transportation project at the local planning level and the actual performance of engineering and environmental analysis to develop the physical details of the proposed project. In general, planning of transportation projects at the local level has limited consideration of the engineering and environmental standards required to be met at the project development stage. This reality leads to difficulties in developing a project that meets the needs of the local community while still satisfying engineering criteria and environmental regulations.
2. **Agency Mission & Focus:** This issue relates to PENNDOT's inconsistent understanding of environmental resource agency mission. Additionally, the environmental resource agencies do not always have a complete understanding of their role in PENNDOT's project development process. These deficiencies result in difficulties in decision-making throughout the project development process, resulting in delay.
3. **Agency Responsiveness:** A number of information reviews occur in the project development phase to solicit the comments and concurrence of resource agencies. Often, for a number of reasons, resource agencies have difficulty meeting the requested timeframes for submittal of reviews resulting in additional delays.
4. **Concurrence of Agencies:** Development of transportation projects involves coordination with a large number of resource agencies having a variety of regulatory powers and specific resource concerns. Inherently, it is difficult and time consuming to address substantive concerns of the resource agencies and achieve agreement on the numerous decisions that occur through the project development process.

5. **Too Many Detailed Alternatives:** Typically, a range of preliminary alternatives which are supported by basic engineering and environmental information is developed for each transportation project. An evaluation of the potential environmental impacts and the ability of each preliminary alternative to meet the project purpose and need is then developed. Those results are used to dismiss some preliminary alternatives and to determine a smaller, more manageable set of detailed alternatives for which PENNDOT performs more specific engineering and environmental studies. The resource agencies often have difficulty in accepting the dismissal of preliminary alternatives, resulting in the request to perform detailed and costly engineering and environmental studies on a larger set of alternatives, some of which may not fully meet the purpose and need for the project.

1.5 Major TAC Recommendations

Four broad-based strategies for affecting improvement in the delivery of transportation projects in the Commonwealth were developed by TAC which serve as a starting point to address a number of issues. These strategies include:

- A Pennsylvania Streamlining Summit involving all project development partners to develop a set of strategic goals and framework for the advancement and implementation of specific streamlining initiatives.
- A Business Process Reengineering Study of the PENNDOT Project Development Process to critically assess and constructively improve the communication and decision-making flows within the project development process systems.
- Advancement of a Federal Legislative Streamlining Initiative to solicit positive change in federal environmental legislation which directly affects efficient delivery of transportation projects in Pennsylvania. This strategy is especially timely with the promotion of the Pennsylvania Secretary of Transportation as the Chairman of AASHTO and the upcoming reauthorization of the federal transportation policy in 2003.
- Development of an Accountability Framework that provides for shared acceptance and responsibility between PENNDOT and its project delivery partners in accountability for the public interest, including public safety, public access and mobility, economy of public expenditures, and environmental stewardship.

1.6 The Benefits of Advancing Environmental Streamlining Initiatives to Improve Project Delivery

As the TAC Task Force considered a range of issues during the conduct of this study, the word "consequences" frequently found its way into the discourse. The Task Force clearly sees transportation project streamlining as a significant issue with much at stake. Consequences, of course, work in one of two directions—positive and negative. In its final meeting in developing this report, the Task Force stressed that it was important in the

context of this overall study to list several key consequences relative to the prospect of a major transportation project development streamlining initiative. The following consequences focus on the positive benefits which the Commonwealth and its citizens may realize with improvements in project development and overall project delivery:

- Faster delivery of programmed projects with associated cost savings that allow for additional transportation improvements to go forward.
- Improved safety and the potential for lives saved and accidents reduced—as projects advance more rapidly and more improvements are accomplished.
- Realizing a reduced percentage of funding on pre-construction activities that in recent years has been an increasing burden on the overall transportation program.
- Improved environmental stewardship and mitigation for impacts as PENNDOT and its resource agency partners find ways to accomplish environmental objectives more efficiently and effectively.
- An opportunity for PENNDOT to apply their substantial expertise in project management and process reengineering to the project development process to further the public interest in providing quality services to the benefit of all Pennsylvania citizens.

TAC believes these positive benefits can and should be realized in Pennsylvania and encourages PENNDOT to consider each of the recommendations included in this report as a framework for streamlining PENNDOT's project delivery process.

A final but important note: TAC has offered a very wide range of possible recommendations and considerations related to the various project delivery issues identified. This list should not be interpreted as a directive to PENNDOT to necessarily adopt or embrace every recommendation, nor does it imply that any recommendations accepted by PENNDOT would be implemented concurrently. Clearly, the resource commitment to advance such a potentially extensive agenda would be significant and could draw attention away from other priorities. In light of the foregoing, TAC recommends that PENNDOT review this report, assess the issues and recommendations and develop a tiered approach with respect to any accepted recommendations. For example, PENNDOT may opt to advance one or more of the crosscutting recommendations as a starting point. The recommendation for a Streamlining Summit and/or the recommendation to advance a business processing review of the project development process could be a 'first tier' approach with the opportunity to give longer-term consideration to other recommendations.

2.0 INTRODUCTION

2.1 Report Purpose and Background

The Pennsylvania State Transportation Advisory Committee (TAC) is authorized under state law to consult with and advise the State Transportation Commission and the Secretary of Transportation on any issue of direct or indirect importance to the mobility of people and goods in the Commonwealth. In this role, the TAC serves as a public partner to the Pennsylvania Department of Transportation (PENNDOT) in developing an effective, multi-modal transportation program for the continued benefit of Pennsylvania citizens and businesses.

This report "Streamlining PENNDOT's Project Delivery Process", was initiated in response to the findings and recommendations of previous TAC studies, namely the "Evaluation of PENNDOT's Bridge Program" which identified project delivery inefficiencies affecting bridge preservation, improvement and expansion in the Commonwealth.

State Transportation Advisory Committee

"It shall have the power and its duty shall be to consult with and advise the State Transportation Commission and the Secretary of Transportation on behalf of all the transportation modes of the Commonwealth and to aid and assist the State Transportation Commission and the Secretary of Transportation in the determination of goals and the allocation of available resources among and between the alternative modes in the planning, development and maintenance of programs, and technologies for transportation systems and to advise the several modes (about) the planning, programs and goals of the department, and the State Transportation Commission."

Pennsylvania Act 120, Section 2001, as amended May 6, 1970

In response, the TAC recommended this report to further identify issues within the existing PENNDOT transportation project delivery process that are contributing to delays or cost increases for PENNDOT and affecting public expectations for the implementation of transportation improvements.

This report is also a direct response to the intent of Section 1309 of the "Transportation Efficiency Act for the 21st Century" (TEA-21). Responding to concerns that environmental reviews were causing undue delays in the development of transportation projects, Congress included environmental streamlining as a goal of the TEA-21 legislation. Section 1309 mandates the development of consistent project development processes, reasonable time schedules and procedures for resolving disputes.

PENNDOT is generally considered to be ahead of most other state transportation agencies in developing and implementing consistent project development procedures and working

cooperatively with federal and state resource agencies. PENNDOT is committed to fulfilling its environmental stewardship responsibilities while providing a safe and efficient transportation system for Pennsylvania citizens and businesses in a cost effective and timely manner. However, it is recognized that inefficiencies and delays continue to hinder the delivery of transportation projects in the Commonwealth.

The significance of any preventable inefficiency in the transportation project delivery process cannot be overstated. PENNDOT is responsible for a vast highway and bridge system, including over 40,000 miles of roadway. This responsibility is substantial in terms of its potential impact on public safety, economic efficiency and mobility. Additional improvement in the efficiency of project delivery – with primary focus on improvements to the preliminary engineering and environmental analysis phase – can mean more dollars committed to providing needed improvements without compromising PENNDOT's self-imposed environmental stewardship responsibilities.

2.2 Goals and Objectives

The TAC has structured this study as a potential multi-phase effort. The overall goal of this study is to assess the project delivery process, identify key issues and make defendable recommendations to improve efficiency and effectiveness.

This report represents the completion of the first phase of this multi-phase study. The specific goal of this report is to identify key issues that cause inefficiencies, delays or cost increases in the project development process and to identify process improvement considerations for further evaluation. The primary focus is on the preliminary engineering and environmental analysis phase (project development phase) of the project delivery process. However, the study team was also authorized by TAC to assess issues related to project programming, final design and permitting as they became known through the development of this report.

As expected, most of the issues that surfaced through the development of this report centered on the efforts involved in completing the environmental analysis and review procedures of the project development process. However, considerable interest was also expressed concerning opportunities to improve the project planning and project programming phases as part of an overall effort to improve project delivery.

Subsequent phases of the study, if pursued by the TAC, are expected to focus on the detailed assessment and evaluation of identified major issues and the formulation of specific actions and recommendations for accomplishing project delivery streamlining. TAC's intent was to determine whether or not to proceed with subsequent study phases after completion of this initial issues report.
Recommendations are included because of the extensive commitment of the Task Force to deliberate and discuss major issues and their interest in the efficient development of a viable transportation system for the citizens of the Commonwealth.

2.3 Report Methodology

A multi-interest, broad-based approach was used to identify common issues and streamlining ideas across a wide spectrum of project development participants. The study methodology consisted of two steps: (1) Data Collection, Research and Issue Identification and (2) Issue Evaluation and Development of Recommendations.

2.3.1 Data Collection, Research and Issue Identification

Interviews were conducted with a wide range of agencies and individuals involved in the project development process, including representatives of:

- PENNDOT Central Office and Engineering Districts
- Federal Highway Administration (FHWA) – Pennsylvania Division Office
- Federal and state resource agencies, and
- Metropolitan Planning Organizations (MPOs) and Local Development Districts (LDDs).

The purpose of these interviews was to identify key issues and to consider any ideas and recommendations for improvement. Based in part on suggestions from these interviews, a representative cross-section of ten PENNDOT projects were selected which represent both efficient and inefficient project delivery experiences. Further interviews with project participants, evaluation of project issues and analysis of project development performance was completed for each project. Review of these projects helped to reinforce the magnitude of the major issues identified and provide a list of "lessons learned" which helped form the basis for the development of potential streamlining recommendations.

2.3.2 Issue Evaluation and Development of Recommendations

Following the identification of the major project delivery issues involving the project development phase throughout the Commonwealth, the Task Force studied the importance of each issue through the application of four criteria:

- Impact and Benefit of Change – this criterion considers the extent or degree of anticipated benefit or positive impact associated with addressing the particular issue.
- Potential for Change – this criterion focuses on the feasibility, generally and specifically, of the potential for PENNDOT to affect change.
- Scope and Scale – this criterion takes into account the relative significance of the issues and breadth of effect on the overall project delivery process.
- Capacity and Resources – this criterion broadly considers whether the resources or capacity exist to affect change and to manage once such change is made. It serves as a measure of the relative ease of affecting and implementing change.

From this exercise, the Task Force developed a list of prioritized issues and recommendations for action, which are further discussed in Section 5.0 of this report.

2.4 Definition of Streamlining

The intent of this report, as a response to past TAC studies and Section 1309 of TEA-21, is to identify issues and potential opportunities for environmental streamlining. The act of 'streamlining' is traditionally defined as actions undertaken to improve the effectiveness of a business or organization, often accomplished by simplifying the way activities are performed. This definition fits well with the overall goal of this report. This report is not an attempt to avoid compliance with environmental regulations or limit agency and public involvement in the transportation project development process, but a means to identify and evaluate ideas for improving the efficiency and effectiveness of the project development procedures and policies currently in place. The intention of the environmental streamlining effort in Pennsylvania and nationwide is to improve the efficiency of decision-making for the hundreds of issues and concerns which typically apply to development of transportation projects in the 21st century, while fully complying with both required environmental protection regulations and the tenets of responsible environmental stewardship.

3.0 THE PROJECT DELIVERY PROCESS & ENVIRONMENTAL LAWS, REGULATIONS, POLICIES AND ORDERS

3.1 The Project Delivery Process

The delivery of a transportation project in Pennsylvania involves completion of five specific phases that form a progressive development scheme to bring a project from concept to implementation (Table 1). The first two phases *(Project Planning and Project Prioritization and Programming)* of this process focus on the identification and characterization of needed transportation improvements and the development of a comprehensive transportation plan to prioritize and fund projects throughout the Commonwealth. The final two phases *(Project Design and Project Construction)* involve the development of detailed engineering plans and actual construction of individual projects.

Table 1: Project Delivery Process

Phase 1 Project Planning	Phase 2 Project Prioritization and Programming	Phase 3 Project Development	Phase 4 Project Design	Phase 5 Project Construction
Identification of existing and potential transportation needs by PENNDOT and regional planning partners	Prioritization of transportation projects based on regional needs, available funding and a balanced statewide program.	Performance of preliminary engineering and environmental analysis to determine location and scope of project	Development of detailed plans, specifications, and estimates and completion of permitting process	Construction of approved transportation project and mitigation measures

↑

This report is focused on identifying issues and potential recommendations for the project development phase of the project delivery process.

This study is focused on the identification of issues within the third phase *(Project Development)* of the project delivery process. The project development phase, consisting of (1) preliminary engineering, (2) environmental studies, (3) alternatives analysis, and (4) agency coordination and public involvement has been identified, both nationally and in Pennsylvania, as requiring an excessive amount of time and cost to complete in relation to other phases of the process. Completion of this phase of the process requires compliance with a substantial variety of federal and state environmental laws, policies and regulations. The processes used to complete the project development phase are based on the National Environmental Policy Act and Pennsylvania Act 120.

3.2 National Environmental Policy Act

The National Environmental Policy Act (NEPA) was signed into law on January 1, 1970, establishing the nation's comprehensive federal environmental policy. This legislation has had far-reaching effects on not only environmental protection and conservation, but also on the decision-making process of federal agencies and how those decisions affect communities and the environment throughout the nation.

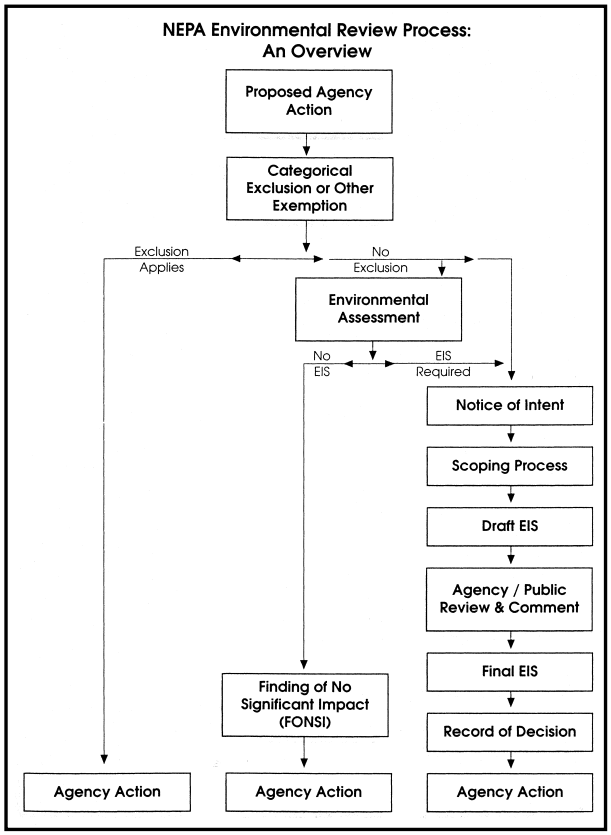
Purpose of NEPA

"To encourage productive and enjoyable harmony between man and his environment; to promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man; and to enrich the understanding of ecological systems and natural resources important to the Nation"

42 United States Code, Section 4321

NEPA requires that any activity or project receiving federal funding or requiring federal approval undergo an analysis of the effect of such actions upon the natural and social environment. Under NEPA, the agency proposing the project must work closely with other federal and state resource agencies, local and tribal governments, public and private organizations and the general public to understand the comprehensive environmental impact of the action. This process involves striking a balance in decision-making among many different factors: mobility needs, economic prosperity, health and environmental protection, community and neighborhood preservation and quality of life considerations for present and future generations.

NEPA, and its corresponding regulations, require federal agencies to involve the public and other governmental agencies in their decision-making process and consider and document the ultimate environmental implications of those decisions. The NEPA process is intended to help agencies make decisions based on an understanding of the environmental consequences and to take actions that protect, restore and enhance the environment. Through an agreement, PENNDOT performs technical engineering and environmental studies in accordance with NEPA as necessary to support the Federal Highway



Mastering NEPA: A Step-by-Step Approach, Ronald E. Bass and Albert I. Herson, 1993

Administration (FHWA), which serves as the lead agency and decision-making body for PENNDOT projects that receive federal-aid.

The regulations implementing the NEPA legislation set out the basic considerations for the assessment of environmental impacts and the required elements for documenting the decision-making process. Three classes of action are defined by the NEPA implementing regulations, based on the scope and potential environmental impacts of the proposed actions (Table 2). Each of these class actions has distinct administrative and documentation requirements.

Table 2: NEPA Classes of Actions		
Class I Action	Environmental Impact Statement (EIS)	Projected impacts of the proposed action would significantly affect the environment
Class II Action	Categorical Exclusion Evaluation (CE)	Projected impacts of the proposed action would not significantly affect the environment
Class III Action	Environmental Assessment (EA)	Significance of the projected impacts of the proposed action are initially undetermined

3.3 Pennsylvania Act 120

Pennsylvania Act 120, Chapter 2 of the Administrative Code of 1929, established the powers of and duties of PENNDOT. The provisions of Act 120 require PENNDOT to consider the environmental impacts of their actions, similar to the federal NEPA legislation. Pennsylvania Act 120 requires PENNDOT to:

- Develop and maintain a continuing, comprehensive and coordinated transportation planning process.
- To hold a public hearing for any project which proposes acquisition of new or additional right-of-way and to consider conservation of natural resources, noise, air and water pollution, and community impacts.
- Make a report indicating the environmental effects of proposed projects.

The Secretary of Transportation must make a written finding indicating no adverse environmental effects, or that there are no feasible and prudent alternatives to the proposed action and that all reasonable steps have been taken to minimize such effects.

PA Act 120 requirements must be followed in developing transportation projects which are funded, either fully or partially, with state funds. Generally, PENNDOT performs the same studies and analysis as performed for a federally funded project applicable to the NEPA process. However, PENNDOT is the decision-making body (rather than FHWA) for projects which receive no federal-aid.

3.4 PENNDOT Project Development Processes

In consultation with the FHWA, PENNDOT has developed a set of project development processes that provide the basis for how proposed transportation improvements are ultimately implemented. The processes prescribe a logical, step-by-step process that incorporates engineering, environmental and public involvement considerations. These policies and procedures help to ensure that projects are responsive to legal requirements, allow for informed decision-making, and are acceptable to the communities involved. The processes are based on federal and state comprehensive environmental policy, namely NEPA and PA Act 120. These policies provide the overall approach to integrating the numerous resource specific regulatory guidelines involved in completing the project development process. Effectively, NEPA and PA Act 120 set the decision-making process to be used by PENNDOT and FHWA in developing transportation improvements.

PENNDOT has three transportation project development processes (Appendix A) that are tailored to the three classes of actions under the NEPA regulations. FHWA, in coordination with PENNDOT, determines the process to be used for each project.

3.4.1 Environmental Impact Statement (EIS)

This ten-step process is applied to actions which, by their scope, degree of public controversy or past experience, are identified as significantly affecting the environment. The EIS project development process culminates with a Record of Decision (ROD) issued by the FHWA which documents the decision concerning the action and identifies mitigation measures to address the significant, unavoidable impacts generated by the action. Generally, most projects that propose transportation improvements on new alignment or require substantial new right-of-way would be classified as an EIS project.

3.4.2 Environmental Assessment (EA)

This six-step process is applied to all actions for which the significance of environmental impacts is not initially apparent. All actions that are not classified as a CE or EIS are classified as an EA. During this process, EA projects must be moved into the EIS project development process if significant impacts are identified through preliminary engineering analysis and environmental studies. Also, projects that begin as an EA can be down scoped to a CE process if it is determined that there are no environmental impacts associated with the proposed action. If no significant, unavoidable environmental impacts are identified at the conclusion of the EA process, a Finding of No Significant Impact (FONSI) is prepared by the FHWA documenting the decision made. EA projects often involve newly proposed interchanges or projects that propose additional vehicular capacity which do not demand a substantial amount of new right-of-way.

3.4.3 Categorical Exclusion (CE)

The CE project development process involves a four-step process to achieve environmental clearance. This process is used for actions that do not individually or cumulatively have a significant impact on the environment, based on past experience with similar actions. These types of projects are excluded from the requirement to prepare an EIS or EA. Typical types

of actions that are classified as CE projects include basic resurfacing, restoration, rehabilitation, or reconstruction of highways or bridges, safety improvements, and addition of auxiliary lanes such as parking, weaving, turning or climbing lanes. Three types of CE projects are defined by the project development process and are approved by the FHWA, the PENNDOT Central Office or individual PENNDOT Engineering Districts.

3.4.4 The Role of the Agency Coordination Meeting (ACM)

Coordination with federal and state resource agencies is vital to the successful completion of the project development phase. To provide for efficient coordination for large and complex EIS projects (and some EA projects), a monthly Agency Coordination Meeting (ACM) is held by PENNDOT and the resource agencies. The purpose of the ACM is to develop transportation projects in an environmentally responsible manner through open and effective communication between and among the FHWA, state and federal resource agencies, PENNDOT, and other transportation providers. ACM participants include:

- US Army Corps of Engineers
- US Environmental Protection Agency
- US Fish and Wildlife Service
- US Department of Agriculture, Natural Resources Conservation Service
- National Marine Fisheries Service
- Pennsylvania Department of Environmental Protection
- Pennsylvania Department of Conservation and Natural Resources
- Pennsylvania Fish and Boat Commission
- Pennsylvania Game Commission
- Pennsylvania Department of Agriculture
- Pennsylvania Historical and Museum Commission
- Pennsylvania Department of Community and Economic Development

Meetings generally consist of general project presentations, field views, or workshops to discuss specific project and resource issues. Use of ACM is intended to satisfy these objectives: (1) timely project development, (2) providing an open communication forum for key issue discussion, and (3) to increase awareness and understanding of the mission and objectives of participating agencies. To facilitate maximum participation, PENNDOT funds a number of positions with both federal and state resource agencies to ensure commitment to PENNDOT's project and to ensure their resource relevant issues and concerns are expressed early in the process and to acquire timely review and concurrence during project development. PENNDOT is viewed nationally as an innovator among state transportation agencies for having established this inclusive partnering process.

3.5 Federal and State Laws, Regulations, Policies and Orders

The underlying policies that must be addressed through the project development process involve a wide array of resource and issue specific regulations. There are approximately 45 separate federal laws, regulations, policies and orders which, either directly or indirectly, are relevant to the completion of the project development process. Additionally, many of these federal requirements have state level companion laws, regulations and policies which must also be addressed.

A brief overview of the major federal and state laws, regulatory programs and environmental policies applicable to transportation project development throughout the Commonwealth is provided below.

3.5.1 Title VI of the Civil Rights Act of 1964

Federal agencies are required to ensure that no person, on the grounds of race, color, or national origin, is excluded from participation in, denied the benefits of, or subjected to discrimination under any program or activity receiving federal financial assistance. This policy is especially relevant regarding the availability of benefits to residents and businesses displaced by the construction of transportation projects.

3.5.2 Executive Order 12898 (EO 12898)– Environmental Justice

This policy requires federal agencies to consider environmental justice issues of all proposed actions. EO 12898 requires agencies to consider impacts of proposed actions on minority and low-income populations and communities. Federal actions cannot generate disproportionately high or adverse effects on minority and low-income populations.

3.5.3 Federal Clean Air Act

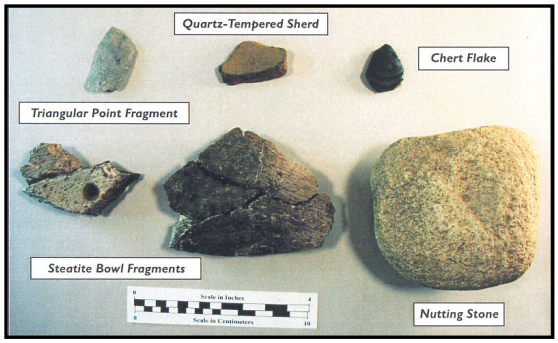
Compliance with the federal Clean Air Act requires regulatory review by the US Environmental Protection Agency and the Pennsylvania Department of Environmental Protection. This law requires assessment of a project's impact on ambient air quality standards established for mobile sources (carbon monoxide) pollutants which are principally derived from automotive use. Projects must also conform to the State Implementation Plan (SIP) that effects the scheduling and funding for future transportation projects. Project specific changes in carbon monoxide levels caused by the implementation of the improvement must be determined to consider compliance with the SIP. Analysis of air quality impacts requires use of an FHWA computer model to assess the impact of mobile source pollutants on air quality.

3.5.4 Highway Noise

Federal regulations define "Procedures for Abatement of Highway Traffic Noise and Construction Noise", and establish standards for mitigation of highway noise impacts. FHWA requires measurement of existing noise levels in the project area and the use of computer models to predict future noise levels based on changes in traffic patterns caused by the proposed action. If noise levels are predicted to occur at or above federal and state noise criteria, the evaluation of abatement measures (engineered noise walls, earthen berms) is required.

3.5.5 Section 106 of the National Historic Preservation Act

Section 106 of the National Historic Preservation Act establishes protection of cultural resources and involves the US Department of the Interior, National Park Service and the Pennsylvania Historical and Museum Commission. Agencies must consider the effects of a proposed federal-aid action upon cultural resources listed or eligible to be listed in the National Register of Historic Places. Cultural resources eligible for listing include districts, sites, buildings, structures and objects that are significant in American history, architecture, archaeology, engineering and culture. Compliance with this law requires coordination with the National Park Service, the Pennsylvania Historical and Museum Commission, and the Advisory Council on Historic Preservation, a quasi-federal agency with oversight of the National Historic Preservation Act.



3.5.6 Section 4(f) of the US Department of Transportation Act

Enacted under the US Department of Transportation Act of 1966, this law provides special protection to public park and recreation areas, wildlife and waterfowl refuges and historic sites of national, state or local significance. Federal transportation agencies cannot "use" any publicly owned land from these resources unless (1) there is no feasible and prudent alternative to the use of such land, and (2) such project includes all possible planning to minimize harm to such land resulting from such use. Section 4(f) mandates total avoidance of resources unless a very strong case can be made that there are no other feasible and prudent alternatives.

3.5.7 Federal Farmland Protection Policy Act

This Act establishes policies which attempt to minimize the extent to which federal actions contribute to the unnecessary and irreversible conversion of farmland to nonagricultural uses. The Act offers federal protection for prime and unique farmland and farmland of statewide or local importance. An evaluation of project impacts, in coordination with the Natural Resources Conservation Service, must be completed for federally aided projects.

3.5.8 Section 6(f)(3) of the Land and Water Conservation Fund Act

The US Department of the Interior, National Park Service has historically provided funds for the development and enhancement of recreation sites under the federal Land and Water Conservation Fund Act. As a policy of this law, agencies that propose to "use" land improved using these funds must complete an analysis of alternatives to determine if such use can be avoided, similar to the federal Section 4(f) evaluation. This policy also requires mitigation in the form of replacement land of at least equal fair market value and of reasonably equivalent usefulness and location. Section 6(f)(3) compliance can be an issue when a proposed project impacts state, county or local parks and forests funded which provide public recreational opportunities and has been fully or partially funded under this law.

3.5.9 Section 401 and 404 of the Clean Water Act

The regulatory process affiliated with Section 401 and 404 of the federal Clean Water Act typically involves the US Army Corps of Engineers, the US Environmental Protection Agency and the Pennsylvania Department of Environmental Protection. Section 401 requires compliance with Pennsylvania water quality standards and other provisions of federal and state water quality law. Section 404 requires evaluation of alternatives to the discharge of dredged or fill material into wetlands or other aquatic systems. The law states that "no discharge of dredged or fill material shall be permitted if there is a practicable alternative to the proposed discharge which would have less adverse impact on the aquatic ecosystem, so long as the alternative does not have other significant adverse environmental consequences." The Section 404 permitting process attempts to achieve "no net loss of wetlands" by requiring a series of planning initiatives to avoid, minimize, enhance and compensate for wetland impacts.

3.5.10 Executive Order 11988 (EO 11988) – Floodplain Management

Via Executive Order 11988, federal agencies must avoid, to the extent possible, the long and short-term adverse impacts associated with the occupancy and modification of floodplains and to avoid direct or indirect support of floodplain development wherever there is a practicable alternative. EO 11988 includes a defined process for determining the significance of floodplain impacts in accordance with the tenets of NEPA.

3.5.11 Endangered Species Act

Section 7 of the Endangered Species Act of 1973 requires that all federal departments and agencies shall insure that their actions do not jeopardize the continued existence of endangered species or result in destruction or modification of habitat deemed to be critical to those species. Project proponents must consult with the US Fish and Wildlife Service, Pennsylvania Department of Forestry, Pennsylvania Department of Conservation and Natural Resources and Pennsylvania Fish and Boat Commission to determine the potential for species impacts as a result of their proposed actions. If threatened or endangered species or habitat is present and may be affected, the project proponent must prepare a biological assessment. The biological assessment is reviewed by the US Fish and Wildlife Service, which will issue a biological opinion. Any federal action that would jeopardize a listed species or destroy or modify its critical habitat is essentially prohibited. Completion of biological assessments are often affected by the seasonal life cycle studies of plants and animals.

3.5.12 Pennsylvania Act 100

This Act establishes the Agricultural Lands Condemnation Board (ALCAB). Certain highway projects must receive ALCAB approval for the condemnation and conversion of presently productive agricultural land to roadway use. PENNDOT must show there is no prudent or reasonable alternative to the utilization of land used for productive agricultural purposes to receive approval for the condemnation of agricultural lands. The ALCAB has six members: two farmers appointed by the Governor, and the Secretary of Agriculture, the Secretary of Environmental Protection, the Secretary of Transportation and the Director of the Governor's Office of Policy and Planning.

3.5.13 Pennsylvania Act 43 – Agricultural Security Area Law

This Act enables landowners to propose the creation of agricultural security areas (ASA's) to local municipal governments. An ASA must be comprised of at least 250 acres of viable agricultural land. Under the Act 43, lands within an ASA are provided protection similar to that provided by PA Act 100, except that the jurisdiction of ALCAB is expanded to include

non-highway transportation projects. Act 43 also establishes the State Agricultural Land Preservation Board and establishes a program for the purchase of agricultural conservation easements.

3.5.14 Pennsylvania Agricultural Land Preservation Policy

The PA Agricultural Land Preservation Policy seeks to protect and preserve the Commonwealth's primary agricultural land and prime and important farmland soils. State agencies cannot permanently convert primary agricultural land to nonagricultural use if other feasible alternatives to the conversion exist. This policy also requires the PA Department of Agriculture, through the ALCAB process, to consider compliance with this policy for project applicable to PA Act 43 and PA Act 100.

3.5.15 Pennsylvania Historic Preservation Act

The Pennsylvania Historic Preservation Act, commonly know as the State History Code, establishes the powers and duties associated with the Pennsylvania Historical and Museum Commission. These powers and duties include advising public officials regarding the planning and implementation of undertakings affecting historic resources of the Commonwealth. This role is reinforced by the interagency cooperation requirements of the act, which require state agencies to consult with and seek the advice of the Pennsylvania Historical and Museum Commission regarding potential avoidance of impacts to resources on or eligible for the Pennsylvania Register of Historic Places. Additionally, the Pennsylvania Historical and Museum Commission is charged with establishing an inventory of significant historic resources known as the Pennsylvania Register of Historic Places and preparing a comprehensive plan establishing priorities for the preservation of those resources utilizing public and private funds.

3.5.16 Pennsylvania Section 2002

This regulation, enacted under PA Act 120, provides additional protection to similar resources as defined in the federal Section 4(f) law. For this reason, PA Act 2002 is commonly referred to as a 'State 4(f)' ' and includes the same 'feasible and prudent' alternative test as the federal Section 4(f) legislation.

4.0 ISSUE IDENTIFICATION

4.1 Background Research

A number of studies were reviewed to provide a general assessment of the delays experienced nationally in project delivery for the three types of project development processes (CE, EA, and EIS).

4.1.1 National Trends in Completing Categorical Exclusions and Environmental Assessments for Transportation Projects

The American Association of State Highway & Transportation Officials (AASHTO), Standing Committee on Highways conducted a comprehensive quantitative assessment of the extent, magnitude and causes of delay associated with CE and EA preparation, based on data from 33 state transportation agencies, including PENNDOT, from across the country. Key findings of the study, entitled "Environmental Streamlining: A Report on the Delays Associated with the Categorical Exclusion & Environmental Assessment Processes", included:

- The majority of projects and environmental documentation prepared by states are CEs and EAs. On average, states responding to the survey estimate they process 294 CEs (92% of all projects) and 21 EAs (7% of all projects) per year. Typically, less than 2% of all transportation projects involve preparation of an EIS.
- According to the states responding, 62% experience some CE process-related delays and 81% report some process-related delays with the EA process.
- Typical delays experienced generate approximately a tripling of the reasonable time required for environmental reviews. The survey indicated the reasonable environmental review time is 8 months for a CE project and 14 months for an EA project. Typical delays result in the average environmental review time increasing to 14 months for CE projects and 27 months for EA projects.
- The main causes of delay can be commonly attributed to compliance with Section 4(f), Section 106, and Section 404 legislation. Compliance with the Endangered Species Act was also noted as an important delay-causing factor.

The results of this survey indicate that 31 to 48% of all CE and 43 to 64% of all EA projects are affected by delay. Since typical delays were found to approximately triple the environmental review time, the delays typically experienced by state transportation agencies can result in substantial cost increases and also generate social impacts by delaying decision-making and solutions for congestion and safety problems.

4.1.2 National Trends in Completing Environmental Impact Statements for Transportation Projects

In response to the TEA-21 legislation calling for environmental streamlining, the FHWA embarked on a study to empirically evaluate the experience of NEPA compliance for transportation projects over the past 30 years. This study, "Evaluating the Performance of Environmental Streamlining: Development of a NEPA Baseline for Measuring Continuous Performance," used statistical analysis of EIS project development data to evaluate the implications of NEPA compliance on the total project delivery process. Results of the analysis determined that:

- For transportation projects that included preparation of an EIS, the average time to complete the project delivery (from project development through design and construction) has been approximately 13.1 years.
- For those transportation projects which included preparation of an EIS, completion of the NEPA process accounted for approximately 27-28% of the project delivery time, from initiation of project development to completion of construction.
- The typical length of time required to complete an EIS over a 3-decade period (1970s, 1980s and 1990s) since the inception of NEPA is 3.0 to 3.6 years.
- Th0se typical length of time required to complete an EIS has risen over the decades, from an average of 2.2 years in 1970's, to an average of 4.4 years in the 1980's, to an average of 5.0 years in the 1990's.
- The average time to complete an EIS which involved a Section 404 permit was 4.3 years, whereas the average time to complete an EIS with no Section 404 involvement was 2.4 years.
- The average time to complete an EIS which involved a Section 4(f) evaluation was 4.7 years, whereas the average time to complete an EIS with no Section 4(f) involvement was 2.8 years.

4.1.3 Pennsylvania Trends in Completing Environmental Documentation for Transportation Projects

In Pennsylvania, PENNDOT works on approximately 650 to 700 CE level projects per year with an average completion time of 1.0 to 1.5 years. In comparison to the national experience, completion of CE projects in Pennsylvania mirrors the national average of approximately 14 months. However, this average time to complete a CE is approximately three times the necessary time required to complete a CE based on the national AASHTO survey.

Approximately 10 to 12 EA projects are being worked on annually in Pennsylvania. This amount is lower than the national average, indicating that Pennsylvania develops more EIS projects than most other states. EA projects in Pennsylvania generally require 1.5 to 3.5 years to complete. Again, this mirrors the national average of 27 months for completion of an EA but also represents at least twice the identified reasonable time required (14 months) for completion of a typical EA according to the national AASHTO survey.

PENNDOT performs approximately 23 to 25 EIS level projects annually, somewhat higher than the national average in terms of numbers. The average time to complete an EIS in Pennsylvania ranges from 5 to 10 years. In comparison to the national FHWA analysis of NEPA compliance trends, EIS projects in Pennsylvania require a longer period of time to complete than the 5.0-year average for transportation projects experienced nationwide during the 1990s.

TAC believes these trends point to a problem that would be unacceptable from a service and efficiency standpoint in most pubic and private sector settings. This degree of variance experienced from the reasonable expected time to complete NEPA compliance also suggests that some degree of process improvement is both achievable and essential to providing efficient public services.

4.2 Interviews

Personal interviews were conducted with 20 project delivery stakeholders throughout the Commonwealth. Similar questions were asked of each stakeholder to solicit their assessment of the most important issues and concerns with the existing project development and project delivery process and their ideas and recommendations for improvement. Summaries of each interview are contained in Appendix B. A composite of the 17 major issues identified and their occurrence within each stakeholder "sector" are shown in Table 3.

Table 3: Summary of Stakeholder Interviews

Project Delivery Issues	Issue Identified by Stakeholder Sectors					
	PENNDOT Central Office	PENNDOT District Offices	FHWA PA Division	Federal Resource Agencies	State Resource Agencies	Planning Agencies
Agency Guidance Protocols	✓		✓	✓	✓	
Agency Responsiveness	✓					
Agency Information Requests	✓	✓	✓	✓	✓	
Agency Mission and Focus	✓				✓	✓
Agency Participation		✓			✓	
Too Many Detailed Alternatives	✓	✓				✓
Concurrence of Agencies	✓	✓	✓			

Table 3: Summary of Stakeholder Interviews

Project Delivery Issues	Issue Identified by Stakeholder Sectors					
	PENNDOT Central Office	PENNDOT District Offices	FHWA PA Division	Federal Resource Agencies	State Resource Agencies	Planning Agencies
Public Understanding of Process	✓	✓	✓			✓
Schedule & Cost Estimating	✓				✓	
Linkage of Project Planning to Project Development	✓	✓		✓		✓
Staff Retention & Availability	✓			✓	✓	
Mitigation & Permitting			✓	✓	✓	
Section 4(f)	✓	✓	✓	✓	✓	✓
Section 404	✓					
Section 106	✓	✓	✓		✓	
Endangered Species Act	✓	✓	✓	✓		
Use of Consultants	✓	✓		✓		✓

Note: Check mark (✓) indicates this issue was identified during interview(s) with that stakeholder group.

4.3 Project Profiles

Based in part on the input and recommendations received from the stakeholder interviews, a select group of ten projects were identified representing both efficient and inefficient examples of project development and project delivery experiences. An additional project using a unique project development process was also profiled to determine the potential application of this process to other transportation projects. The overall intent in selecting the project profiles was to select a set of projects that was reasonably representative of PENNDOT's range of transportation projects.

Additional interviews with project managers and consultants involved in these projects were performed to establish factors of success and failure of the actual project development experience. This information was supplemented, when available, with schedule and cost information to show how projects met or exceeded estimated costs and time commitments. Detailed descriptions of these projects are found in Appendix C.

The "lessons learned" from these project profiles served to reinforce many of the issues and recommendations identified through the stakeholder interviews. Issues related to project purpose and needs, Section 106, Section 4(f) and threatened and endangered species were frequently noted as issues that caused delays in project development. Additionally, reaching consensus with the ACM representatives was cited as a difficult issue for some projects. The use of extensive public involvement strategies, effective ACM coordination and early identification and resolution of resource issues, especially cultural and historical resource issues, were noted as strategies for efficient project development.

4.4 State DOT Research

To assist in validating the project development issues identified in Pennsylvania and consider strategies to address those issues, five other state transportation agencies from around the country were researched. These states were selected based on the size of their transportation program and active work on environmental streamlining initiatives within their states. Selection of states also considered geography to allow for consideration of diverse biological and community issues and varied role of federal and state resource agencies in the transportation project development experiences of each state.

4.4.1 California

In October 1999, the California legislature passed Assembly Bill 1012 to expedite the use of a large cash balance in the State Highway Account and to accelerate the delivery of transportation improvement projects. From this action, a number of project delivery teams were established across the state to evaluate how project delivery could be significantly accelerated. These teams reviewed the entire working processes of the California Department of Transportation (CALTRANS), including budget and funding mechanisms, transportation programming, project management, design, environmental compliance, right-of-way, contracting services, construction, and local assistance office to identify streamlining potential. The results of this analysis of the environmental compliance component of project delivery identified a number of recommendations with potential applicability to Pennsylvania.

Similar to the findings of this study of Pennsylvania issues, one of the issues identified in California was the limited environmental scoping performed during the project planning and project programming phases, sometimes resulting in deficient preliminary cost and time estimates. To improve this deficiency, CALTRANS is preparing a GIS-based computer application to provide preliminary environmental information to planners. This will provide an early warning of environmental constraints and issues and a baseline for developing more realistic project cost estimates and schedules.

CALTRANS, in cooperation with resource agencies and FHWA, is developing standard formats for all environmental documents and a standard environmental reference to provide consistent detailed guidance and technical study needs. The intent of these efforts is to expedite project development and review by improving the organization of review documents and ensuring necessary information and studies have been completed in

accordance with applicable regulations and standards. The need for improved guidance and information was also noted as a major project development issue in Pennsylvania.

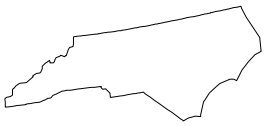
CALTRANS also created an environmental streamlining ombudsman position to identify opportunities to improve internal processes and communication networks between agencies and CALTRANS. This position also continually monitors environmental compliance as part of the overall project delivery process to identify opportunities for performance improvements.

4.4.2 Michigan

The state of Michigan, through the Michigan Department of Environmental Quality, has the ability to authorize federal wetland permits for the Michigan Department of Transportation (MDOT). This allows MDOT to work with a smaller group of regulatory personnel and only involve USACOE staff on approximately 5% of their projects. Through recent permit staff increases, wetland permits are usually issued within 60 days. Having authority for wetland permits also allows MDOT and the Department of Environmental Quality to develop flexible mitigation, including wetland banks. Use of delegated Section 404 authority in Pennsylvania through a partnership between PENNDOT and the Pennsylvania Department of Environmental Protection may be an effective method for improving wetland permitting issues which affect PENNDOT project development.

MDOT is also working on a statewide archaeology database to ease identification of resources early in the planning process and to help develop preliminary alternatives which avoid cultural resources.

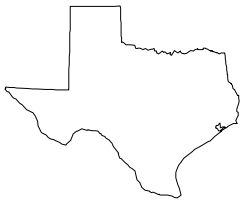
4.4.3 North Carolina



The North Carolina Department of Transportation (NCDOT), in cooperation with their state resource agency partners, have begun a redesign process for all state permits typically encountered with transportation projects. This effort includes analysis and consideration of changes to the NCODT project development processes which are used to comply with NEPA and state environmental requirements. Another part of this effort is to separate permitting and mitigation to allow for more "up-front" and innovative mitigation rather than the traditional prescribed mitigation requirements. Since mitigation and permitting were identified as project development issues in Pennsylvania, the efforts of North Carolina may serve as a model for affecting improvement.

4.4.4 Texas

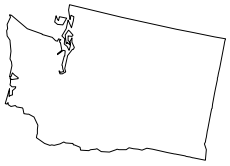
The Texas Department of Transportation (TXDOT) held an initial Streamlining Summit in 1999 to discuss the identification and implementation of streamlining initiatives. Over the ensuing two years, a number of technical teams studied issues and problems with the



current project development process in the state and developed a set of recommendations and implementation strategies. Issues analyzed included hazardous materials compliance, agency and department communications, permitting and natural resource studies. The idea of a streamlining summit may be an effective method by which PENNDOT could address several of the identified project development issues.

4.4.5 Washington

State legislation in Washington resulted in the Washington State Department of Transportation (WSDOT) formation of a Transportation Decision Making Process Improvement Team. This team is tasked to improve the application of NEPA during the early stages of long-range planning for transportation projects. The goals of this study are to (1) provide for the best environmental decisions, (2) move NEPA consideration and decision making into the planning process, (3) reduce duplication of effort by all agencies, (4) reduce project cost, (5) reduce project time, (6) improve agency coordination, (7) improve public coordination and (8) improve public perception of WSDOT. Major efforts of the study include reinvention of the current project planning process, development of an improved WSDOT organizational structure, development of a multi-disciplinary and multi-agency steering committee to work on large corridor projects, and application of value engineering concepts to project planning and project development processes.



It is interesting to note that improving public perception was one of the WSDOT goals. This underscores an issue that TAC recognizes as well, that public perception of PENNDOT is shaped in part by project delivery and that the public therefore requires a greater understanding of the project delivery process and it inherent constraints.

5.0 ISSUE EVALUATION AND TAC RECOMMENDATIONS

5.1 TAC Evaluation of Issues

Based on the stakeholder interviews, project profiles, and additional research, a list of 17 major issues were identified. Throughout the identification process, these issues were generally found to be commonly cited by individuals closely involved in the development of projects across the Commonwealth and recognized as issues affecting, both positively and negatively, the actual efficiency of project delivery.

5.1.1 Issue Evaluation Criteria

From the list of 17 issues identified, the TAC analyzed each against four screening criteria to determine a prioritized list. The four criteria used were:

- Impact and Benefits of Change – this criterion considers the extent or degree of anticipated benefit or positive impact associated with addressing the particular issue.
- Potential for Change – this criterion focuses on the feasibility, generally and specifically, of the potential for PENNDOT to affect change.
- Scope and Scale – this criterion takes into account the relative significance of the issues and breadth of effect on the overall project delivery process.
- Capacity and Resources – this criterion broadly considers whether the resources or capacity exist to affect change and to manage once such change is made. It serves as a measure of the relative ease of affecting and implementing change.

5.1.2 Issue Rankings

The TAC members individually considered the application of the four criteria to each issue as part of a study workshop in November of 2001. Those results were then compiled and a scoring rank was assigned to those results to develop a composite score for each issue. TAC issue analysis scores are shown in Appendix D. There was a general consensus that the issues with the highest composite scores were those that were also seen as the most important and opportune from the perspective of improving overall transportation project delivery. The results of the analysis resulted in the following prioritized list of project delivery issues:

TAC Prioritized List of Issues

1. Linkage of Project Planning to Project Development
2. Agency Mission & Focus
3. Agency Responsiveness
4. Concurrence of Agencies
5. Too Many Detailed Alternatives
6. Agency Information Requests
7. Agency Participation
8. Agency Guidance Protocols
9. Section 106
10. Section 4(f)
11. Mitigation and Permitting
12. Public Understanding of Process
13. Endangered Species Act
14. Section 404
15. Schedule & Cost Estimation
16. Use of Consultants
17. Staff Retention & Availability

5.2 Issue Definition and Individual TAC Recommendations

As noted elsewhere, the scope of this report was essentially limited to issue identification. However, as a result of the strong interest in improving the project delivery process shown by the Task Force and those individuals who contributed to this report, a set of initial recommendations or considerations associated with the major issues has been developed.

It has become clear to the TAC that the project development phase of project delivery is extremely complex. The complexity is apparent in not only the extensive range of statutory, regulatory and policy considerations, but also, perhaps more significantly, the number and diversity of organizational participants. For this reason alone, streamlining is a compelling area of public policy and attention from agency leadership and program managers.

Those 17 major issues identified and prioritized through application of the issue evaluation criteria by the Task Force have been organized into the three following groups which reflect their origin and role in the project development process:

- **Process Issues**: These issues are primarily related to the practice of performing preliminary engineering and environmental analysis in accordance with the PENNDOT Transportation Project Development Processes

- **Institutional Issues**: These issues involve the connection of other processes, organizations, and administrative procedures that operate outside of, but affect, the efficient completion of the project development phase of project delivery. These issues focus on the gaps, overlaps, or inefficiencies inherent between these institutional and administrative interrelationships.

- **Legislative Issues**: These issues reflect problems or inconsistencies related directly to compliance with environmental laws and regulations. These issues focus on four federal environmental laws: Section 4(f) of the Department of Transportation Act,

Section 106 of the National Historic Preservation Act, Section 404 of the Clean Water Act, and Section 7 of the Endangered Species Act.

Additionally, a set of initial recommendations have been developed which suggest potential strategies for affecting change or improvement related to the project development issue. These recommendations have been framed only as considerations for further assessment. These initial recommendations would require additional study and review between PENNDOT and their project development partners.

Process Issue: Agency Mission & Focus

TAC Priority:
Of the 17 issues identified, this issue received the 2nd highest priority score from the Task Force.

Definition:
The laws, regulations, orders and policies that provide resource agencies with the authority, approval or influence over a natural or socioeconomic issue generally have a specific goal of protection or consideration. It has been the experience of PENNDOT that agencies, in some situations, are attempting to require PENNDOT to obtain their "approval" on resource decisions that are beyond or separate from the specific legislatively defined mission of the agency. While the interest of an agency in other resource decisions is certainly in keeping with their environmental stewardship responsibilities, they often lack the expertise to comment upon a regulatory or policy decision of another agency. No resource agency should strive to overly influence the decision-making of another agency on issues not within the purview of their mission. This leads to overall delay in obtaining concurrence on resource agency issues. Given the limited resources and demanding schedules of the resource agencies, having more focus on decisions affecting their mission should lead to more efficiency within the project development process. At a very practical level, this mission creep adds to the lack of predictability in the environmental review process.

Expanding interpretation of agency mission also leads to requests for additional mitigation beyond that which is legislatively required and requests for non-mandated mitigation. PENNDOT has traditionally attempted to incorporate, within fiscal restraints, some non-mandated environmental "contributions" for large projects or in cases where specific resource issues validate the consideration of additional environmental contributions. Such actions are in keeping with the environmental stewardship responsibilities and policies of PENNDOT. However, resource agencies have come to expect PENNDOT to provide these additional voluntary environmental "contributions as part of their efforts to meet the legislative mitigation requirements, regardless of cost or connection to the actual effects of a proposed transportation project.

Recommendations:
A. Clearly recognize and reinforce appropriate agency mission and role in project development process.

B. Establish cross training and familiarization opportunities between PENNDOT and resource agencies to foster a better understanding of respective mission and decision-making processes.

C. Consider use of an ACM facilitator to manage ACM discussions and foster efficient decision-making with PENNDOT and resource agency missions.

D. Attempt to develop improved working relationship with each agency and foster cooperative understanding of balance and proportionality regarding environmental issues. Endorse "right thing to do" philosophy and way of doing business in balancing regulatory requirements and environmental stewardship.

Process Issue: Agency Responsiveness

TAC Priority:
Of the 17 issues identified, this issue received the 3rd highest priority score from the Task Force.

Definition:
PENNDOT experiences varied levels of agency responsiveness to requested document reviews during the development of required environmental documentation. Generally, agencies are asked to provide comments on environmental documents within a 30-day or longer timeframe dependent upon the complexity and volume of materials to be reviewed. While in many instances agency reviews are provided within the set timeframes, agencies often either ask for extensions or simply do not provide comment within the established timeframes. It has been the general policy of PENNDOT to accept all requests for extensions and to except comments past the set deadlines. This leads to time delays in finalizing environmental documentation, affecting the overall project development schedule. It also dilutes the positive project delivery effects of timely document review. No enforceable time limits are in place to mandate agency accountability.

Recommendations:
A. Establish expected time frames for each review. Investigate development of timeframes based on type of project.

B. Expand use of electronic media to expedite review and response.

C. Determine internal review procedures and review timeframes for each resource agency to develop a set of standard timeframes that can reasonably met by all agencies.

D. Establish performance goals to measure PENNDOT and resource agency responsiveness to review and response requests over time. Institute response performance measures as part of funded agency performance review report. Performance goals should be established to evaluate the overall review experience as an efficiency measure, not as a critical or punitive review of actual review findings.

E. Use performance results in "Streamlining Report Card" to monitor performance over time. This effort would provide public scrutiny of the performance of PENNDOT in meeting the goals of the transportation program. Part of this equation would be the performance of resource agencies in being effective partners with PENNDOT.

It is clearly recognized that each of the recommendations above represents a fairly substantial change from the status quo. In that regard, TAC believes that a phased implementation of agency responsiveness strategies, with agency agreement, would be needed to test and evaluate the effectiveness of each strategy.

Process Issue: Concurrence of Agencies

TAC Priority:
Of the 17 issues identified, this issue received the 4th highest priority score from the Task Force.

Definition:
Obtaining the concurrence of resource agencies at decision points in the project development process is an inherently time consuming process. Concurrence requires that each agency essentially approve the resolution of all issues that have been considered at each concurrence point in the process. Despite the lack of a legislative mandate, FHWA and PENNDOT have traditionally been hesitant to move forward in the project development process without 100% concurrence from the resource agencies. FHWA and PENNDOT generally continue negotiations (providing additional information, agreeing to additional mitigation, etc.) with agencies until concurrence is reached and the project can move forward in the development process. Clearly, this informal standard of total concurrence represents a standard that is extremely difficult to meet given a reasonable conflict or dispute resolution process. As a result, it slows the process and adds delay and costs. No process or policy currently exists for rectifying agency concurrence disputes other than escalation of issues to high-level managers.

Recommendations:
A. Review project development processes to identify potential reduction, merging or rearrangement of concurrence steps.

B. Assess development of two-tiered decision-making step, requesting agreement (concurrence) related to specific resource mission and regulatory requirements and consensus (general opinion) on overall project and stewardship issues related to but secondary to agency regulatory requirements. This would provide PENNDOT with the ability to focus agency concurrence and consensus by establishing specific criteria which separate agency regulatory requirement issues from agency stewardship responsibilties.

C. Establish enhanced definition of concurrence/consensus through specific decision-making framework and criteria.

D. Develop dispute resolution procedures that can be applied at the ACM level to address issues as an alternative to management escalation.

Process Issue 4: Too Many Detailed Alternatives

TAC Priority:
Of the 17 issues identified, this issue received the 5th highest priority score from the Task Force.

Definition:
The initial activities of the project development process generally include a screening of preliminary alternatives. Preliminary alternatives are evaluated against purpose & need and engineering and environmental criteria to identify a reasonable set of alternatives which seem to best meet the objectives of the project with the least adverse environmental impacts. This set of preliminary alternatives are then carried forward into a detailed study phase that entails additional engineering and environmental evaluations to precisely determine resource impacts. PENNDOT is often asked by the resource agencies to carry a large number of alternatives into detailed study. Often, resource agencies are not willing to concur with the dismissal of preliminary alternatives without detailed information, regardless of whether those preliminary alternatives meet the purpose and need of the project or meet the project engineering and environmental criteria.

This inability to reduce the number of reasonable alternatives results in sometimes excessive expenditures of funds and time to analyze alternatives which have (1) substantial engineering or environmental impacts or (2) have been previously shown to be less than ideal potential solutions to the identified transportation needs. Legislative requirements also complicate the screening of alternatives, as some laws require the evaluation of "all feasible and prudent alternatives" or the evaluation of "all practical alternatives." The interpretation of these different alternative evaluation standards presents a problem for resource agencies in eliminating alternatives while maintaining compliance with their legislative requirements.

Recommendations:
A. Address screening of preliminary alternatives as part of efforts to link project planning and project development.

B. Develop a set of flexible decision rules and criteria to achieve effective reduction of preliminary alternatives.

C. Consider the appropriateness and benefit/cost of developing more detailed information at the preliminary alternatives stage to provide for more informed decision-making and an increased comfort level among the resource agencies to consider reduction of alternatives.

Process Issue: Agency Information Requests

TAC Priority:
Of the 17 issues identified, this issue received the 6th highest priority score from the Task Force.

Definition:
This issue focuses on answering the question "What information do you need?" A disconnect often occurs between information provided and information needed between PENNDOT and the resource agencies. PENNDOT does not have a sufficient understanding of agency information needs and why certain information is necessary for resource agencies to make decisions. Resource agencies have difficulty providing consistent information requests given the variety of project complexity and resource characteristics. This issue is closely related to the Agency Guidance Protocols issue described above.

Due to the lack of consistent guidance on resource analysis and the dynamic nature of some agency missions', discrepancies often occur regarding the type of information needed by resource agencies. Frequently, technical information provided by PENNDOT to the resource agencies is either not appropriate or lacking the level of detail the resource agency feels is necessary to adequately evaluate resource impacts. This causes additional time and cost to complete further studies which could have been completed earlier. Additionally, the resource agencies often have difficulty defining exactly what information they need at the beginning of the project development process. Requests for additional information generally occur after initial field studies and analysis have been completed. This requires PENNDOT to unexpectedly reconvene technical field personnel teams, directly resulting in additional time and costs.

Recommendations:

A. Use project planning phase to (1) develop a consistent level of preliminary environmental information, (2) to identify key issues, and to (3) identify future detailed analysis needs. This will also require consistently high levels of agency participation in the project planning phase to be effective. This relates directly to Process Issue 6: Agency Responsiveness.

B. Attempt to develop with resource agencies a standard list of required information and analysis needs for each project type.

C. Establish a standard checklist to be used during project scoping for the identification of required information needed by each resource agency.

D. Require written justification of additional information requests beyond those initially identified during project scoping.

Process Issue: Agency Participation

TAC Priority:
Of the 17 issues identified, this issue received the 7th highest priority score from the Task Force.

Definition:
Due to inadequate staffing levels, travel budget limitations and workload demands, some agencies are unable to fully participate in field reviews and special meetings which are important to the efficient completion of the project development process. This situation leads to increased time for resource agencies to review data and analyses, review environmental documentation, and make regulatory or policy decisions. Late or additional information requests are also more likely as a result of less than full participation in field reviews and agency review meetings.

As a method to acquire greater agency participation and effect faster coordination and decision-making, FHWA and PENNDOT currently fund 14 positions at various state and federal resource agencies. These funded positions are dedicated to work in partnership with PENNDOT in delivering the transportation program of the Commonwealth while ensuring the environmental resources within the purview of their respective agencies are adequately protected.

Recommendations:

A. PENNDOT should continue to evaluate the benefits and costs of funding additional resource agency personnel

B. Investigate use of technology to provide field information to those agencies unable to fully participate in project coordination meetings.

C. Develop attendance performance criteria for those funded agency representatives. These criteria should not be developed to support punitive action, but to provide formalized expectations necessary to achieve transportation goals, recognizing that late involvement can promote project delay.

D. Establish policies that consider agency involvement and participation in developing project concurrence/consensus. This recommendation involves establishing some basic guidelines and expectations for effective partnering between PENNDOT and the resource agencies.

Process Issue: Agency Guidance Protocols

TAC Priority:
Of the 17 issues identified, this issue received the 8th highest priority score from the Task Force.

Definition:
This issue focuses on the question "How do we do it?" Within the project development process, a two-tiered framework exists. The "top-tier" addresses the process issues involved in addressing resource and project issues. An example of top-tier process guidance is the PENNDOT Transportation Project Development Process flow charts (i.e. the EIS, EA, and CE processes). These types of guidance establish the "rules" by which a project is developed, identifying time considerations and coordination/consensus points within a predictable and logical decision-making process. Most resource agencies have similar process flowcharts which depict the administrative procedures for complying with their applicable regulatory issues.

However, the availability of guidance on the "bottom-tier" framework is less consistent. Resource agency guidance for coordination and evaluation of resources issues is limited, inconsistent, and not always clearly defined. Most of the existing guidance material from both PENNDOT and the resource agencies focuses almost solely on the top-tier administrative processes involved in coordination, analysis, and resolution of issues. While this information is crucial to understand in the overall project development phase, it does not adequately address the technical details and studies required to fulfill the regulatory and policy intent of environmental legislation. Limited guidance exists on the specific information and analysis techniques required to meet the decision-making needs of the resource agencies. In effect, the rules at the bottom-tier are dependent upon the individuals involved, the complexity of the project and the nature of the affected resources. While it is recognized that technical guidance cannot address every resource situation or issue, development of some general information and analysis requirements would help PENNDOT and the resource agencies adequately address the regulatory requirements in a more concise and consistent manner while maintaining proper stewardship of the environment.

Recommendations:

A. Establish partner teams with PENNDOT and resource agency personnel to define deficiencies and gaps in existing guidance materials. This effort should follow a prioritization plan so that guidance documentation is developed for issues which will have the greatest positive effect on overall project delivery.

B. Investigate use of technology such as enhanced geographic information system (GIS) applications to provide improved guidance availability and resource information.

C. Research guidance materials from other states or other offices to determine "best practices" and evaluate for applicability to Pennsylvania.

Institutional Issue: Linkage of Project Planning to Project Development

TAC Priority:
Of the 17 issues identified, this issue received the highest priority score from the Task Force.

Definition:
The project planning and project programming phases of the project delivery process are performed with a highly limited understanding of the project development phase. Planning and programming decisions are often made without adequate consideration of environmental issues and review by resource agencies. This often results in the identification and implementation of alternatives into planning programs which may not meet the rigors of the environmental analysis required in the project development stage. This results in development of projects which may not adhere to previously developed local land use and transportation plans or the needs of the community. In summary, there is presently little connection between the planning and programming phases of project delivery with the project development phase. TAC has recognized this situation as a substantial opportunity to improve overall project delivery.

An additional inefficiency is the lack of specific purpose and need information developed at the planning stage. Often, projects are promoted through the planning and programming phases with limited definition of the actual transportation needs. When projects enter the project development phase, additional data on transportation needs may change the scope of the planned improvement or there may be controversy with the resource agencies over the need for any improvements.

The bottom line is that there is a significant opportunity to streamline the project development process by addressing more of the environmental issues prior to project programming. As an aside, the development of purpose and need information is a task which generally dovetails with the skills and knowledge of planners in Pennsylvania's MPOs and LDDs.

Recommendations:
A. Consider reassignment of purpose and need concurrence step of project development phase to planning and programming phase of project delivery. The implementation of this recommendation will need to occur in the context of evaluating the resources, staff and expertise available to a diverse set of planning organizations throughout the Commonwealth.

B. Establish a standard checklist of basic environmental information which needs to be addressed during the planning phase. Investigate training, information databases, and other aids to assist local planning organizations effectively document environmental resources and issues.

C. Seek methods to more effectively involve local planning representatives in the project development process, including attendance and participation in ACM's. While the limitations of planning partner resources are recognized, this task expansion represents an opportunity for staff development and retention.

D. Investigate methods to better incorporate local transportation and land use plans with the project development process. Consider methods to provide ACM review of local, county and regional planning efforts in context of potential resource issues. The benefit of this review would allow ACM partners to take into account the results of local, county and regional planning efforts that have already resolved key environmental issues. The Task Force strongly believes that major opportunity exists for ACM to consider the steps communities have made in land use and comprehensive planning programs to accommodate certain, often highly specific, transportation improvements.

E. Work with FHWA and other partners to develop a pilot program focusing on "total project development" which considers formation of a project team that is involved with carrying a transportation improvement through all five phases of project delivery.

Institutional Issue: Mitigation & Permitting

TAC Priority:
Of the 17 issues identified, this issue received the 11th highest priority score from the Task Force.

Definition:
Mitigation demands in the project development process are becoming more complex and costly as additional issues arise (e.g. additional threatened & endangered species, requests for unlegislated mitigation). In addition to the costs of developing mitigation, strict monitoring and post construction analyses of the success of mitigation adds costs beyond the construction phase.

There also exists some disconnect between mitigation commitments made during project development and the final design and construction phases. The mitigation commitments agreed to by resource agency personnel in the project development phase may not be accepted by resource agency permitting staff during final design activities or changes in the final design may change the nature or extent of previously accepted mitigation commitments.

Recommendations:
A. Seek ways to accelerate the identification and conceptual resolution of key permitting and mitigation issues earlier in the project development process

B. Bring permitting staff into project development process to review draft environmental documentation and approve mitigation commitments.

C. Continue to investigate progressive mitigation strategies, including "up-front" mitigation commitments as a potential time saving strategy and method for improving overall effect and quality of mitigation.

Institutional Issue: Public Understanding of Process

TAC Priority:
Of the 17 issues identified, this issue received the 12th highest priority score from the Task Force.

Definition:
PENNDOT's customers, the general public, have a limited understanding of the administrative and project development functions involved in delivering a transportation project. The public does not understand the working processes or relationships between the five phases of project delivery. This situation can lead to citizen confusion, unrealistic expectations among public officials, and a general mistrust of PENNDOT. While PENNDOT has done an exemplary job in developing effective public involvement procedures for individual project delivery phases, no tools have been developed and implemented to tie together each project delivery phase. The public should also have a general understanding of resource agency requirements and procedures which PENNDOT must meet in bringing their transportation program to the citizens of the Commonwealth.

Recommendations:

A. Conduct a citizen survey to assess information needs and level of awareness to guide the development of effective educational strategies and materials.

B. Develop a standard video addressing public understanding of the linkage between the five phases of project delivery for use in project specific public involvement activities. Investigate methods for dissemination through local government associations, business organizations, public meetings, civic events, speaker forums, Internet pages and mass media outlets such as the Pennsylvania Cable Network.

C. Develop a series of standard Frequently Asked Questions (FAQ's) pamphlets or brochures concerning transportation project delivery in Pennsylvania. Make these brochures available at the district offices of state legislators, many of which have to field constituent questions regarding transportation project delivery.

D. The Center for Local Government Services in the Department of Community and Economic Development should be considered as a partner in the development and dissemination of educational materials. The Center has a substantial connection and working relationship with local municipalities.

E. Seek to constructively but candidly raise the awareness of project delivery inefficiencies to strengthen public support for reform. To some extent, PENNDOT has unintentionally internalized this problem rather than being forthcoming with the public as to the external impositions which must be addressed in delivering a transportation project.

F. Engage resource agencies as partners to participate in project-related public involvement activities. Many of the resource agencies have relationships with public advocacy groups and associations with specific citizen interest. The involvement of resource agencies will assist PENNDOT in addressing technical environmental questions and show public positive relationship between project partners.

Institutional Issue: Schedule & Cost Estimation

TAC Priority:
Of the 17 issues identified, this issue received the 15th highest priority score from the Task Force.

Definition:
PENNDOT Engineering Districts often develop aggressive project schedule and cost estimates in an attempt to be responsive to program and public expectations. Such estimates are generally formed to maintain momentum within the organization to meet the transportation needs of the Commonwealth. However, the translation of those estimates to actual project development often results in delays and cost increases which are seldom understood by project proponents and public interests. TAC feels more emphasis should be placed on developing consistent estimates, especially cost estimates, as these relate directly to the programming phase which directly affects the timing of project delivery. In this context, TAC also recognizes that all environmental issues cannot always be anticipated and that those issues will directly affect the realistic implementation of schedule and cost estimates.

Recommendations:
A. Accelerate the use of historic project management data through PENNDOT ECMS program to develop predictable and realistic schedule and cost estimates. According to PENNDOT, such information will be increasingly available over time as the ECMS database builds a valid set of actual project development related data.

B. Periodically conduct variance analysis to assess differences between estimated and actual project schedules and budgets. Use analysis to identify frequent or recurring estimating discrepancies for process improvement activities.

C. Use the public education tools to effectively develop realistic public expectations regarding project delivery.

Institutional Issue: Use of Consultants

TAC Priority:
Of the 17 issues identified, this issue received the 16th highest priority score from the Task Force.

Definition:
PENNDOT and resource agencies experience several problems with the use of consultants in the project development process. First, it is difficult to hold consultants responsible for the quality and timeliness of their work. PENNDOT has recognized its staff could benefit from project management training in terms of effectively managing and working with consultants. It must be noted that consultant performance is a shared responsibility of the consultant and PENNDOT. PENNDOT clearly recognizes this and has invested in training for project managers on various levels. This fact must be fundamentally acknowledged as part of this issue. If PENNDOT does increase its reliance on consultant services, the effectiveness of work is a shared responsibility – PENNDOT being responsible for sound oversight and management and the consultant being responsible for meeting all technical requirements on time and within budget.

Consultants are often active on several projects, which can lead to problems related to staff availability and prioritization of work. Consultants also can submit inaccurate information or inadequate studies, resulting in additional delay and costs and affecting the relationship between PENNDOT and the resource agencies. Additionally, some resource agencies have different experiences across the Commonwealth with the relationship between PENNDOT project managers and consultants and how they interact with resource agency personnel.

Finally, Commonwealth administrative requirements (many beyond PENNDOT control) often result in substantial delay in contracting consultants.

Recommendations:

A. Establish project quality plans and goals between PENNDOT and consultant at outset of project development to document objectives, communications and internal working procedures. Continue to emphasize efforts to train project managers in effective consultant management and relations.

B. Continue to pursue improvements to contracting agreement system through ECMS and other PENNDOT initiatives.

C. Make greater use of open-end and multi-phase agreements and assess flexibility for efficient application. Seek to improve strategic use of contract sharing agreement between PENNDOT Central Office and Engineering Districts.

Institutional Issue: Staff Retention & Availability

TAC Priority: 17
Of the 17 issues identified, this issue received the lowest priority score from the Task Force.

Definition:
PENNDOT and resource agencies have been affected by turnover of experienced staff and often have difficulty in attracting new employees, a trend which is expected to continue. This relates directly to project timing and delivery issues through decreased availability and inefficiencies related to the knowledge level of staff. The overall decreased experience of all

project development participants increases the potential for errors and oversight. This situation may lead to additional costs and time to address problems and perform quality review of studies, analyses and documentation.

Recommendations:

A. Target cross-training and rotational assignments to increase the depth and breadth of knowledge among PENNDOT staff. This will also contribute to the overall need for a partnership approach among the organizations involved in the project development process.

B. PENNDOT should continue to evaluate benefits/costs of funding additional resource agency positions. Alternatively, PENNDOT can make greater use of consultants assuming that efforts to improve consultant management have occurred and been successful.

C. Evaluate the need for improved quality assurance and quality control procedures throughout PENNDOT bureaus, divisions, and engineering districts.

Legislative Issue: Section 106 of the National Historic Preservation Act

TAC Priority:
Of the 17 issues identified, this issue received the 9th highest priority score from the Task Force.

Definition:
Compliance with Section 106 legislation requires lengthy coordination and development of highly detailed information. Given the rather broad criteria for determining potential cultural resources, a great number of resources can exist for almost any project in the Commonwealth. Resolution of archaeology issues is inherently expensive and extremely time consuming. Additionally, potential resources are continually being added to this range due to the general criteria that any historic resource over 50 years of age is potentially eligible.

Consistent eligibility determinations from the Pennsylvania Historical and Museum Commission are lacking and demands for additional detailed information are often viewed by PENNDOT as excessive. Determination of resources eligible for protection under Section 106 is a highly subjective process and often results in differences of opinion between cultural resource professionals. Differences in agency mission and project development processes between PENNDOT and the Pennsylvania Historical and Museum Commission also complicate streamlined resolution of cultural resource issues.

Recommendations:

A. Continue to work with Pennsylvania Historical and Museum Commission to foster greater understanding and role of agency in the project development process. Seek opportunities to collaboratively address issues and interests which benefit each agency and constitute effective use of public funds.

B. Assess development of tools and resources (e.g. predictive models for archaeological resources, database of historic structures) to more efficiently identify cultural resources and allow focus of effort on resource protection.

C. Assess potential for innovative mitigation concepts involving historical transportation resources, working on the success of such activities as the Byways to the Past Conference.

D. Recognize high inherent costs in both time and funds to address archaeology issues and assess methods to improve efficiency

Legislative Issue: Section 4(f) of the Department of Transportation Act

TAC Priority:
Of the 17 issues identified, this issue received the 10th highest priority score from the Task Force.

Definition:
Section 4(f) requires that a feasible and prudent alternative that avoids impact to a Section 4(f) resource (i.e. historic resource, public park or recreation area, and public waterfowl and wildlife refuges) be selected by the lead agency as the preferred alternative. This requirement can result in awkward transportation alternatives which require design exceptions or result in alternatives that generate additional or more adverse environmental impacts. This feature of the Section 4(f) legislation contrasts with the intent of NEPA to "balance" environmental impacts in determining the preferred alternative.

Section 4(f) compliance for historic properties is also "repetitive" as Section 106 compliance affords similar protection. This results in duplication of effort and review when impacts to an historic resource are involved. Additionally, Section 4(f) and Section 106 have differing definitions for determining "impact". Section 106 allows for small right-of-way takes without substantial additional analysis or mitigative measures, however under Section 4(f) all impacts to a historic property, whether substantial or insignificant to the cultural heritage of the property, as viewed as identical and requires avoidance at the potential expense of other environmental resources.

Recommendations:
A. In coordination with FHWA, promote training of project development participants on Section 4(f) compliance.

B. Work with Pennsylvania Historical and Museum Commission to identify procedures and guidance for improving compliance efforts with Section 4(f) legislation. Investigate opportunities for concurrent resolution of Section 4(f) and Section 106 issues.

Legislative Issue: Endangered Species Act

TAC Priority:
Of the 17 issues identified, this issue received the 13th highest priority score from the Task Force.

Definition:
Dynamic lists of protected species, a complex coordination process, costly and time consuming studies and poor guidance material lead to difficulties for efficient compliance with the Threatened and Endangered Species Act. The listing of species considered endangered or threatened throughout their natural range is ever-changing and expanding. If a species is potentially affected by a transportation project, extensive field studies are required to determine the exact location and extent of the population and to assess the potential impacts to the species.

Often, identification and analysis of these species demands a highly specialized and skilled professional, leading to delays and cost increases in securing adequate staff. In some cases there are only 1 or 2 experts on a particular species, leading to delays of an entire construction season if that expert is not available. Additionally, these studies generally require analysis of at least one life cycle of the species, immediately adding a year or more to project schedules. To further complicate compliance, each species has distinct conservation demand which can lead to substantial changes in project design to accommodate mitigation.

Recommendations:

A. Continue to explore development of species database and guidance materials with US Fish and Wildlife Service, Pennsylvania Department of Conservation and Natural Resources and Pennsylvania Fish and Boat Commission.

B. In cooperation with federal and state agency partners, assess opportunities for innovative mitigation and species protection.

Legislative Issue: Section 404 of the Clean Water Act

TAC Priority:
Of the 17 issues identified, this issue received the 14th highest priority score from the Task Force.

Definition:
Compliance with Section 404 legislation requires lengthy coordination and development of highly detailed environmental and engineering information. In general, the Section 404 permitting program seeks to achieve a "no net loss" of wetland resources, requiring project sponsors to expend great effort in time and cost to avoid and minimize impacts to wetlands and, when impacts cannot be avoided, to mitigate for those losses. Lengthy and detailed

fieldwork to identify and delineate wetland areas is generally necessary to provide an adequate level of information for US Army Corps of Engineers decision-making.

Working with different office and personnel throughout the Commonwealth complicates consistency of demands and decisions from the US Army Corps of Engineers. The state is part of four separate US Army Corps of Engineers District Offices, each of which have differing interpretations of their agency's Section 404 mission.

Recommendations:

A. Continue to support federal legislative initiatives to reduce overlap and compliance complexity.

B. Pursue, in cooperation with Pennsylvania Department of Environmental Protection, state delegated authority for federal Section 404 program compliance in the Commonwealth. Also seek to address inconsistencies in program requirements of Pennsylvania Department of Environmental Protection regional offices.

C. Work with US Army Corps of Engineers to standardize interpretations and expectations of regulatory personnel across Corps Districts. Care would need to be taken that any uniformity does not result in requirements becoming more stringent.

5.3 TAC Crosscutting Issue Recommendations

Given the range of project development participants and the complexity of the issues and recommendations identified, the TAC believes that significant benefit could be realized by development of several major crosscutting issue strategies to affect change. These efforts could address multiple issues and concerns and form the framework for subsequent streamlining activities to further promote the superb efforts of PENNDOT in developing the "Pennsylvania" model for efficient project development on a national level.

Cross-Cutting Recommendation: Pennsylvania Streamlining Summit

TAC recommends a Pennsylvania Transportation Streamlining Summit involving PENNDOT, resource agencies, and local planning partners be held to develop a framework for developing an overall streamlining strategy for the Commonwealth. The Summit concept is recommended to advance two basic but significant goals: (1) to establish a broad, shared strategic direction for streamlining improvements, and (2) to establish a more specific program or action plan to achieve the strategic direction. The first goal is generally associated with the need to develop a shared policy direction among the leadership of the participating agencies. The second goal reflects the execution or implementation of that direction.

The Summit would advance a systematic and objective assessment of the project development process with the goal of achieving tangible strategies and initiatives for further consideration. Participants would be charged with developing streamlining initiatives which

consider effective and efficient use of public funds, advancement of safety and economic improvement, transportation mobility and access and environmental stewardship.

This cooperative approach must be structured to provide equal participation of all stakeholders. A shared belief that improvements in project delivery can be achieved while addressing environmental and resource protection and transportation needs would be at the core of this initiative. Use of an expert facilitator is recommended to ensure operational efficiency of the Summit proceedings. This would foster a sense of cooperation and ownership between Summit partners for the ultimate success of this effort.

The following broad recommendations are offered to help structure and implement a Streamlining Summit:

A. The success of this effort will require top-level management support from all partners. Success in affecting change will be difficult without an organizational commitment and influential leadership role from each agency involved. TAC envisions that agency executives would first agree on a set of streamlining principles or goals but would not necessarily have to be a part of the Summit during which those principles and goals would be advanced to more detailed implementation. Alternatively, a two-tiered approach could be followed with an executive streamlining Summit and a management level streamlining Summit. The former would focus on setting the policy framework, the latter would focus on how to implement the directions of the executive Summit.

B. The agenda and structure of the Summit must be developed cooperatively and accepted by all partners.

C. The Summit could be structured as a multi-tier effort, with a series of technical teams addressing those issues and recommendations handed down by a senior-level executive group as discussed above.

D. All partners must be willing to participate in an open, constructive and candid forum that focuses on progress and potential improvement rather than past bureaucratic dilemmas.

E. Research and consider streamlining initiatives and best practices from other state transportation departments and resource agency offices across the nation in addressing improved project development.

Cross-Cutting Recommendation: Business Process Reengineering Study of PENNDOT Project Development Process

This crosscutting recommendation involves development of an extensive management study of the PENNDOT project development processes and the related preliminary engineering and environmental analysis activities.

The intent of this recommendation is to achieve constructive improvement that results in greater efficiency and economy and more resources applied to our transportation system—without compromising environmental stewardship. Oversight for the review should include PENNDOT and its resource agency partners to accommodate ownership for study goals, methodology, and ultimately, achievable recommendations.

The transportation project development processes are highly complex with many steps, review points, and communication flows. Business process reengineering is a management science that can be applied to such a complex process and related activities to identify ways to eliminate or combine steps. The goal of a reengineering effort is to achieve greater efficiency without sacrificing the broader objectives or outcomes. In a word, business process reengineering is "streamlining."

TAC strongly believes that a process of this programmatic and organizational complexity merits an in depth evaluation to:

- Document steps and review points,
- Identify steps that can be combined, eliminated, or otherwise made more efficient as long as such reorganization produces the desired result, and
- Provide sufficient justification and rationale for the reengineered process so that cost and time savings are considered in relation to environmental compliance and stewardship.

PENNDOT has vast experience with business process reengineering. In recent years the project design process was reviewed as part of a management system development, the Engineering and Construction Management System (ECMS).

This recommendation could be developed in conjunction with the Streamlining Summit recommendation. Framing and scoping such a reengineering study with PENNDOT and their resource agency partners could be a major effort and potential success of the Streamlining Summit.

The following recommendations are offered to help facilitate the development of a Business Reengineering Study of the PENNDOT Project Development Processes:

A. Use PENNDOT's substantial experience with process reengineering as a base for moving forward. It must also be noted that the PENNDOT may want to consider doing this internally rather than using a consultant given their expertise in this management area. It is also critical to stress that this recommendation could be one that is delayed given the many other demands on PENNDOT staff time. It should be entirely up to the PENNDOT as to whether and when this recommendation would be advanced.

B. Establish study objectives that are agreed upon by PENNDOT and its resource agency partners.

C. Consider a shared funding approach to ensure the integrity and ownership of results of the management study.

D. Conduct the review over the course of approximately one year with several key major milestones for partner review of progress. Formal implementation progress reviews should be scheduled every six months following the completion of the study to track progress and to address any problems. The business reengineering consultants could be retained to assist with these periodic implementation reviews.

E. Establish a smaller management committee to provide more regular direction to the study—consider including an outside third party with applied expertise in process reengineering of large organizations or multi-organizational processes.

F. Establish a long term tracking process to document both cost savings and project development impacts.

G. Review and evaluate the internal organizational efficiency of PENNDOT Central Office and Engineering Districts to determine if bureaucratic changes would improve project delivery.

Cross-Cutting Recommendation: Advance a Federal Legislative Streamlining Initiative

As the TAC engaged in project delivery issue identification and prioritization, one pattern emerged with regard to several issues—those requiring legislative action generally received lower scores in the TAC issue ranking process. While four criteria were used to rank the 17 issues, those issues that required legislative remedy generally were deemed to have low priority, reflecting a view that the opportunity to affect change regarding those issues may not be as feasible as those that can be addressed administratively.

Four project delivery issues identified are directly related to the difficulty in efficiently complying with Federal legislative requirements. These include:

- Section 106 of the National Historic Preservation Act involving protection of cultural resources;
- Section 4(f) of the Department of Transportation Act involving added protection of historic, public recreation and waterfowl/wildlife refuge areas;
- Endangered Species Act involving protection of threatened and endangered plants and animals; and
- Section 404 of the Clean Water Act involving protection of wetlands and surface waters.

In addition, the Task Force discussed a special opportunity to address project streamlining as part of the upcoming reauthorization of national transportation authorization legislation. The existing national transportation law—TEA 21—is due for reauthorization in 2003. The multiyear authorization effectively sets transportation policy and program direction for a six year period. With each ensuing legislative package there has been a greater level of attention to policy innovation with issues such as streamlining now positioned to be meaningfully addressed. Pennsylvania has historically been a major contributor to the overall approach and considerations included in the federal surface transportation legislation. With PENNDOT Secretary Mallory now serving as President of the American Association of State Highway and Transportation Officials, the opportunity to affect federal legislation remains. These current conditions serve to further underscore the opportunistic timing for considering strategic project delivery improvements within the Commonwealth.

The following recommendations are offered to support and advance effective change in federal legislation affecting project delivery in Pennsylvania:

A. TAC recommends that the Commonwealth advance a comprehensive federal streamlining legislative initiative. To the greatest extent possible, the TEA 21 reauthorization should be the vehicle for achieving some of the desired changes. To the extent that TEA 21 reauthorization cannot be used to change other statutory provisions, it is recommended that PENNDOT consider using the reauthorization

as an opportunity to advance ambitious streamlining pilot programs, with Pennsylvania as a lead state for demonstrating streamlining initiatives.

B. Continue to support initiatives for federal review of legislation to reduce overlap and reduce compliance complexity.

C. Promote innovative mitigation concepts and demonstration projects. PENNDOT should promote the philosophy of planned mitigation in contrast with the more reactionary approaches presently encountered to support environmental stewardship and get beyond current emphasis on strict regulatory compliance

D. Work with resource agencies to reduce different interpretations or expectations of regulations across agency divisions, districts or offices

E. Work with resource agencies to determine best practices (within or beyond Pennsylvania) and use to develop improved guidance

F. Explore the opportunity to delegate authority for the federal Section 404 permitting program to Pennsylvania through a cooperative effort with the Pennsylvania Department of Environmental Protection.

Cross-Cutting Recommendation: Development of Accountability Framework

The subject of project delivery streamlining is of significant importance as it impacts, directly or indirectly, transportation, the environment and government effectiveness and efficiency. The TAC recommends that accountability be a central component of any Pennsylvania streamlining initiative. Accountability does not imply the imposition of some punitive program or procedures, nor does it imply that there is no accountability in the process as it presently exists. Rather, TAC believes that accountability can be a positive and broad based framework for improving the overall project development phase of project delivery. That broad based concept—which TAC believes is ripe for implementation—will entail leadership of each agency partner to adopt a shared set of streamlining goals and to then establish a process for achieving those goals. Among those goals and the supporting process should be recognition for improved accountability among all project development participants.

Accountability is an indispensable component of a Pennsylvania project delivery improvement strategy, because:

- Project development occurs in a multi-interest, multi-bureaucratic context with individual missions, goals and operational organization. Accountability may have different meanings for each agency, however that organizational heterogeneity does not conflict with the need for establishing some overall accountability practices and principles to which all project development participants strive to adhere.
- All participants are stewards of the public interest. Again, this interest may have different meaning to varied agencies, but all project development participants are considered public stewards and must consider overall public welfare in the

performance of their governmental role. The concept of public welfare must consider public safety, mobility and access, economy of public expenditures and environmental stewardship. The need for improvements in public safety cannot be disputed or compromised. Improved mobility and access directly lead to economic and physical health benefits for all Pennsylvania citizens. Those entrusted with use of the Commonwealth's funding should continually seek to provide the greatest benefit with the least cost. Pennsylvania citizens are also entitled to the benefits and enjoyment of the Commonwealth's vast natural, cultural and socioeconomic resources.

TAC believes that it is possible and desirable to improve the process efficiency involved in providing transportation benefits to the Commonwealth within the content of effective public stewardship. Agencies must recognize that these concepts cannot be prioritized in the performance of their public duty, but that they are entrusted and required to equally consider and balance each of the public needs with the mission of their agency. TAC believes that effective implementation of this public interest view and acceptance of accountability to Commonwealth can lead to a "win-win" result for all Pennsylvanians.

TAC recommends that those leading a streamlining effort consider the following items in shaping the accountability portion of the streamlining agenda:

A. Articulation and adoption of shared accountability principles by the leadership of all participating agencies reflecting the broader public interest.

B. Development of some key performance measures over time reflective of the broader set of goals.

C. Greater consideration of transportation issues as an equal partner in the balancing of public interest through the project development process.

D. The adoption of a business model that focuses on key end results that all can agree upon. This speaks to the need to address streamlining in a manner that recognizes that the current plethora of organizational participants is a challenge that can be effectively addressed through shared goals.

E. Addressing accountability as a major component of the TAC recommended Streamlining Summit.

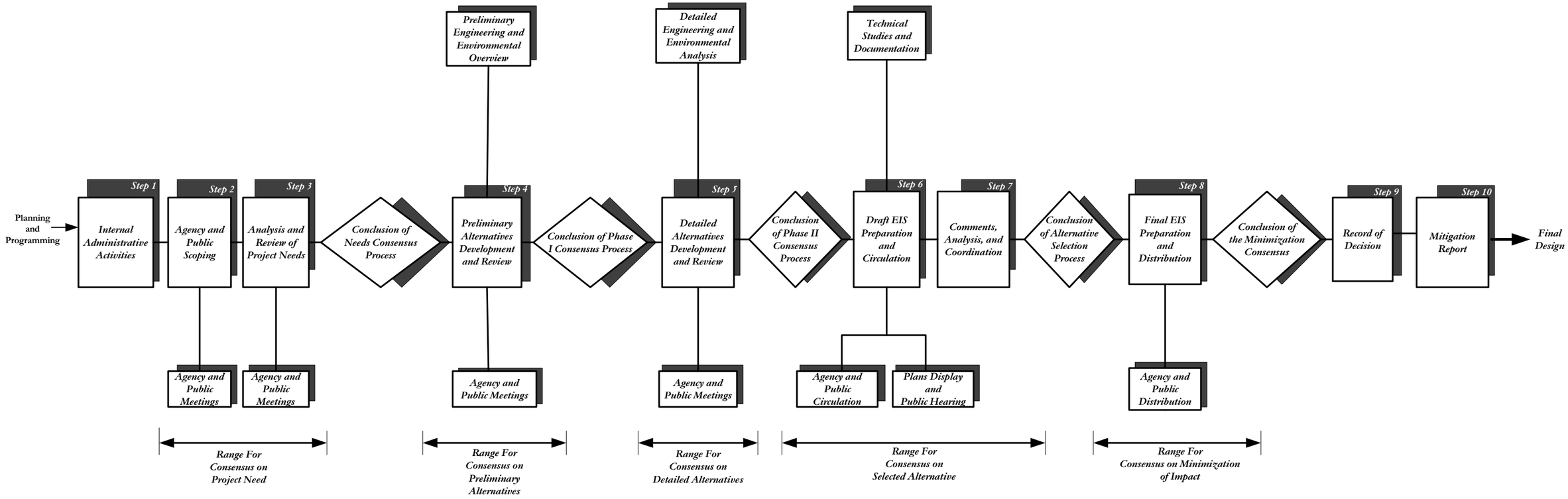
F. Addressing accountability as a major component of the TAC recommended Business Reengineering review of the project development phase.

G. Considering the application of concepts such as 360-degree evaluation or other concepts that encourage a more well-rounded continuous evaluation of the project delivery process.

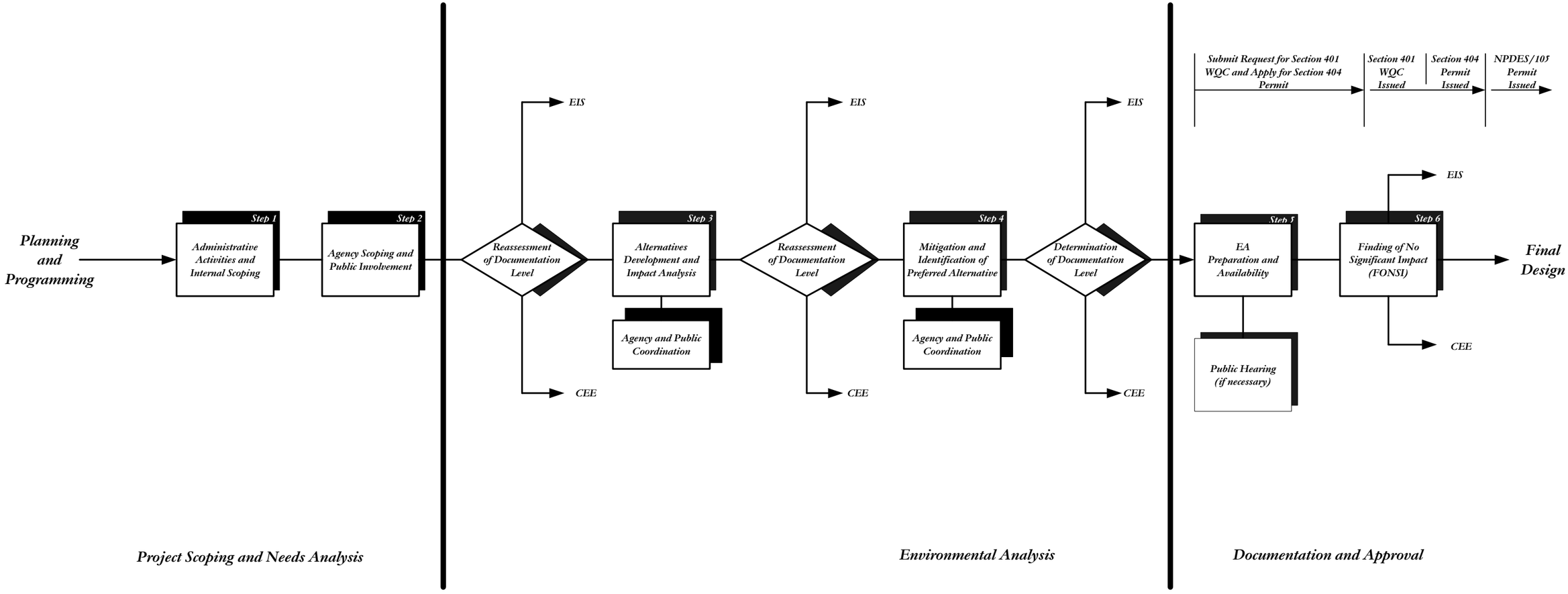
H. Consideration of the potential for improving the decision-making process and decision rules/framework relative to project development.

APPENDIX A: PENNDOT Transportation Project Development Process Flowcharts

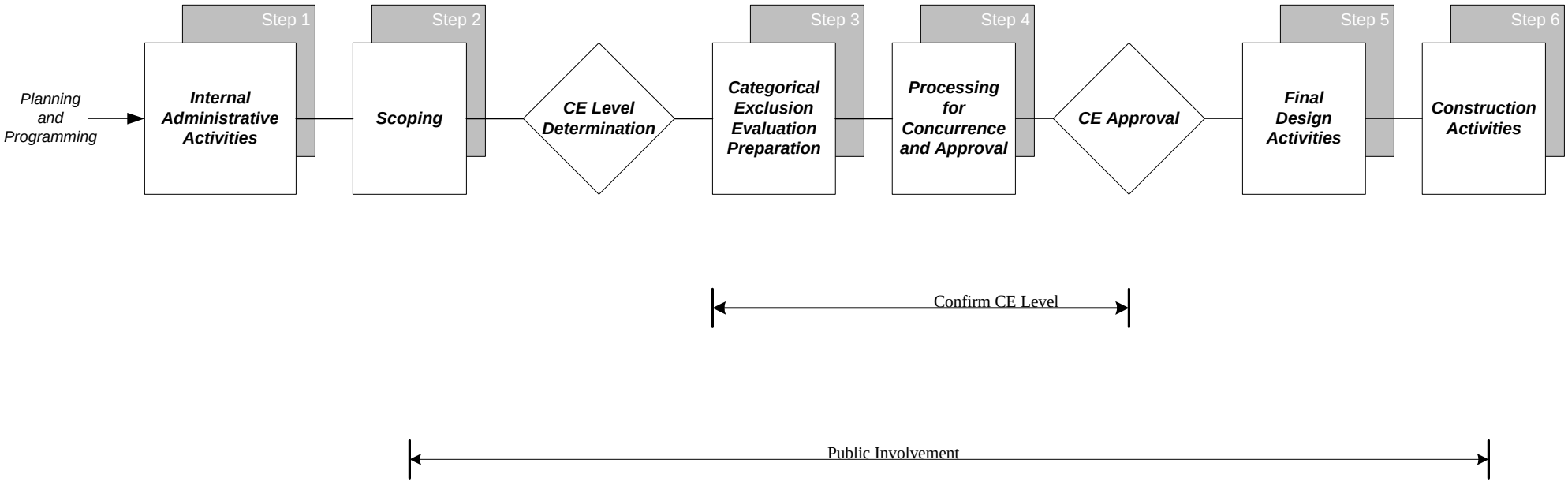
PENNDOT Transportation Project Development Process Flow Diagram Environmental Impact Statements



PENNDOT Transportation Project Development Process Flow Diagram Environmental Assessments



PENNDOT Transportation Project Development Process Flow Diagram Categorical Exclusions



APPENDIX B: Stakeholder Interviews

PENNDOT Deputy Secretary for Highway Administration

Agency/Organization Overview:

PENNDOT's Highway Administration supervises the eleven engineering districts and the Chief Engineer.

Issues and Findings:

Significant streamlining will need to be top-down or improvements cannot be made. Federal agencies will have to lead on many issues.

State agencies need:

- increased delegation for approvals from Federal agencies
- credibility standards for approvals
    - PENNDOT ISO 14001
- data automation and access

Section 4(f) is an issue for a number of projects. It ties the hands of agency personnel and often results in awkward alternatives.

The front end of the process must focus on early identification of issues. Late surprises in project development can seriously hinder delivery.

Purpose and needs analysis and concurrence is not a major issue as far as Highway Administration is concerned. They are neutral on whether P&N should be a concurrence step in process.

Ideas and Recommendations:

ACMs should be open to the public, both general public and MPOs. There will need to be working boundaries but public should be able to participate fully in the process.

PENNDOT Highway Administration, Chief Engineer

Agency/Organization Overview:

Through five bureaus within the Highway Administration Deputate, the Chief Engineer supports District and County operations by providing technological leadership, statewide standards for highway and bridge products, quality standards and assurance, and technical assistance to ensure high-quality transportation services and products.

Issues and Findings:

ACM field views have been extremely helpful in getting timely decisions and consensus.

Getting right people together is key to the success of a project. Involving others will be helpful (MPOs, permit staff, etc.). Cautions about public involvement with ACM.

Existing PENNDOT processes are excellent. They are collaborative and result in defendable decisions.

It is agreed that more realistic scheduling would be advantageous to Department, but to streamline, public expectations for project delivery need to be addressed.

ACM – some agencies stick to their mission while others expand which is more of a personal choice than an agency direction. Need to develop clear and effective process for elevation of problems on concurrence.

Need Federal action on overlapping and conflicting legislation.

ECMS has aided the engineering side. There are similar opportunities to help efficiency of environmental process.

Ideas and Recommendations:

Need to develop more programmatic agreements especially for in-kind replacements such as bridges. Also need to consider projects where capacity additions are planned for existing facilities (I-95, I-83, etc) and ways to expedite process, perhaps agreement for projects which only add a % of capacity to an existing facility.

PENNDOT Deputy Secretary for Planning

Agency/Organization Overview:

The PENNDOT Planning department is responsible for planning and programming in each transportation mode and serves as the centralized focal point to coordinate and track progress on improvement projects throughout the state. Professional planners, administrators, and engineers analyze and update Pennsylvania's transportation needs, establish strategies to meet planned objectives, develop and prioritize improvement projects consistent with available resources, monitor and expedite project implementation for the Department's other operational units, and coordinate those activities with other local, state, and federal agencies.

Issues and Findings:

The 10-step process is an effective time process. It has also demonstrated its flexibility/pliability to adjust and adapt to varying situations. This has been proven over time since the process has been in place now for quite a few years.

Environmental Justice (EJ) and interpreting/determining how it is to be effectively applied based on federal guidance to date is an emerging issue. In Pennsylvania, DVRPC and SPC (in the Philadelphia and Pittsburgh areas, respectively) are ahead in applying EJ.

Public involvement requirements have been a challenge, it is a maturing process and having positive project impacts. Yes, it has a cost, but it also has more payoffs now.

About 35% of total project costs are now in pre-construction activities including right-of-way. Approximately 15 years ago, it was thought that pre-construction activities accounted for about half its current percentage, but added that it is important to consider the benefits as well as the costs.

ACM process works fairly well. Opportunities are seen for moving further away from advocacy and more toward problem solving. The time is right for the ACM/resource agencies to review their process broadly to assess where improvements might be made. This process will require outreach as contrasted with it being an imposed facilitation.

ACM representatives do a good job in attending meetings and field views. Project conflicts are typically resolved so as not to require executive resolution. There are several subordinate layers of conflict or issue resolution. Few projects have required the intervention of Secretary Mallory or Deputy Secretary Ryan. I-99 necessitated Secretary Mallory's involvement. A current project in Trexlertown also has had to have high level of attention involving the Department and the Army Corps.

Ideas and Recommendations:

The Department's six-point policy position on environmental streamlining reflects a view that project development can improve and that it is time to work on further incremental improvements for a new frontier in this area:

- Eliminate/reduce the review process for minor projects. A large percentage of the total projects developed by PENNDOT are classified as minor projects.
- Delegate to State DOT's authority to manage certain resources issues within the process. A certification program must be established to allow DOT's this authority. Some of these issues areas are listed in the longer version of the PENNDOT position paper that needs to be obtained.
- Establish maximum time frames for project review.
- Establish time lines for issue resolution.

- Conduct a holistic review of all federal 4(f)/106 review activity to assess the level of documentation that is really required/necessary.
- Advance further linkage of planning and project development.

Opportunity does exist to more closely tie project planning and project development. The marriage of planning and project development does represent a significant opportunity that can be played out in needs documentation and land use studies. Additional points included:

- This streamlining view is not unanimous nationally.
- We can expect to see it as a trend, but one that is slow go.
- DVRPC has taken some leadership by heading up US 202 Section 300 P.E.
- The MPO managed the preliminary engineering along with the planning which is its normal bailiwick.
- MPOs could manage preliminary engineering on EA projects. This would include consultant selection and management through to the point of environmental clearance.
- Success in delegation relies on willingness and ability.
- After Action Review should be a key component for developing cost-savings ideas.

PENNDOT Bureau of Design

Agency/Organization Overview:

The Bureau of Design develops bridge and highway design policy and criteria, ensuring State and Federal requirements are followed in developing bridge and roadway construction projects, and then bids and awards these projects. The Bureau is involved in the complete design process by providing surveying and mapping, acquiring consultant services, setting standards and reviewing highway and bridge projects, managing right-of-way acquisition, managing utilities for transportation projects, providing transportation projects for construction contractors to bid on, awarding construction contracts, and providing information technology to support and automate the design functions.

Issues and Findings:

There are personality conflicts between representatives at the various agencies. TAC will not have much impact on this issue.

Agencies do not have a clear understanding of their role and fail to define the criteria used for evaluation. Some agencies, specifically the U.S. Army Corps of Engineers (ACE) and Pennsylvania Historical and Museum Commission, have been inconsistent with the basis of their rulings in the past. PENNDOT also has a difficult time understanding what specific information these agencies want from them. Some ACE employees are trying to broaden

their mission and ask PENNDOT for information that is beyond their scope. PHMC often requires additional work that PENNDOT does not feel is necessary to complete the project. PHMC mixes the National Historic Register eligibility requirement with PHMC's own interests and uses the NEPA process to have additional work completed.

Too much time is spent going back and forth with each agency to reach a consensus on mitigation. PENNDOT may have to go back and forth with ACM agencies several times before a consensus can be reached on mitigation. Sometimes the project will require political pressure to have it completed before an agreement can be reached. Often, the agencies will use mitigation issues as leverage points. The more time that is spent on consensus building, the less money is available for mitigation. In addition, estimated approval dates are missed, which leads to a negative public perception.

PENNDOT is unable to hold Contractors responsible for their work. Consultants hired by PENNDOT are often working on other projects for other clients and it is difficult to take action against them if the work takes longer than projected. It is also difficult to hold Contractors responsible for inadequate work.

PENNDOT is unable to get the necessary information in a timely manner. For a short time, PENNDOT had access to the Department of Natural Resources' PNDI database of protected plants in the area. DCNR no longer allows PENNDOT access to this database for security reasons. PENNDOT must now work around DCNR's schedule to get the needed information, which delays the project. PHMC is putting together a database with information on structures and places eligible for the National Historic Register. Access to this database will be helpful to PENNDOT as well.

PENNDOT is slow to follow-up with other agencies on the status of the review. PENNDOT would like a 30-day turnaround time on reviews, but the agency has not acted responsibly in enforcing the time limit. PENNDOT will usually allow an exception if one is requested, and will not enforce the time limit of the extension either.

Threatened and Endangered Species Act – Difficult to get timely information on the guidelines to complete Section 7. The criteria are also constantly changing, because new species are added to the list.

Section 4(f) – Poor coordination with Federal Highway Administration (FHWA) on reaching a consensus.

Section 106 of the National Historic Preservation Act – Requires coordination with too many agencies.

PA Act 120 – Funding is not available for large projects.

Clean Water Act – Poor coordination with ACOE on reaching a consensus.

Ideas and Recommendations:

Set required time limits for commenting and hold agencies responsible for meeting deadlines. PENNDOT attempts to notify the agencies of when to expect the report so reviewers can plan their schedules accordingly. However, PENNDOT has been slow to follow up with the agency if comments are not received and even slower to continue to the next phase of project development. This issue can delay a project anywhere between a few days to a month. This issue can be easily resolved by assigning a person the task of keeping track of where projects are in the development process. This person could also notify the agency of when the review period has reached the halfway point and when the review period has expired. PENNDOT should also try to discourage time extensions unless necessary.

When possible, move ahead to the next step if concurrence cannot be reached. For projects that have not been elevated, it has been difficult for the agencies to reach concurrence. PENNDOT spends too much time going back and forth with the other agencies on mitigation. If PENNDOT is confident that they have followed the correct procedure and PENNDOT's findings will hold up in court, then the agency will sometimes continue to the next phase of the development process. This was the case on the Route 220 project, and PENNDOT was successful. However, PENNDOT has been slow to follow through with this idea in the past and the agency should be more aggressive in moving ahead if justified.

There should be a creation of informational database on eligible historic properties and access to PNDI database. If specific employees at PENNDOT could receive security clearance to access the database, then both PENNDOT and DCNR could save time in the development process. The creation of a database by PHMC of eligible properties for the National Historic Register could also save PENNDOT weeks of research time.

Reasonable project timelines should be created. PENNDOT tends to be too optimistic when estimating and scheduling projects. Each districts' engineers are very competitive towards one another to complete bigger projects, faster, and cheaper than the others are. Part of the engineers' success is measured by the proximity of the anticipated NEPA approval date and the actual approval date. This method may not be the most practical in creating schedules. PENNDOT needs to develop historical data to verify the timeliness of projects and use that information as a basis for project scheduling. This issue is important because most people believe that any program on the Transportation Improvement Plan (TIP) is almost completed. They do not understand that this is only the initial step. Once deadlines are missed, it gives the public a negative perception that PENNDOT is not moving forward with these projects.

The planning process needs to be refined. The MPO should provide input regarding the purpose and need of the project early in the development process. However, it is not necessary to include MPOs at ACM meetings. The use of more corridor planning during the planning phase of project development is important and corridors should be adopted as part of the TIP. It is easier to "sell" projects that are part of a corridor and named the Route 22 Corridor between Pittsburgh and Altoona as an example.

PENNDOT Bureau of Environmental Quality

Agency/Organization Overview:

The mission of BEQ is to guide and assist PENNDOT so that it may develop and maintain the Commonwealth's transportation system in an environmentally sound manner. This means providing Department leaders, organizations, personnel, contractors, vendors and consultants with the environmental information, analysis, guidance, agency coordination assistance, and other technical support needed to protect and enhance the natural and human environment.

Issues and Findings:

Compliance with Section 404 of Clean Water Act is one of the most troublesome issues in project delivery process. Dealing with federal issues and four separate ACOE districts is problematic. Sue feels Section 404 gives The Army Corps of Engineers excessive latitude defining mission and regulatory reach.

Section 106 is also an issue of concern for project delivery. Extensive coordination and additional involvement with Native American tribes has increased timeframe for compliance. Programmatic Agreements has been very helpful in fulfilling Section 106 requirements.

The subjective nature of Section 4(f) law is also a significant issue. Sue supplied a position paper on difficulties and suggestions for improvement to Section 4(f) compliance.

While ACM has been very successful and most agencies have a clear mission of their agency, this tool has led to agencies becoming more aggressive and attempting to institute authority they do not have. This has been a problem especially with purpose and need and mitigation aspects of project development. The ACM representatives have become well-versed in using the project development process as a tool to meet their agency or personal interests regardless of authority or mission.

The PA Department of Community and Economic Development has not been as active in ACM process as regulatory members. BEQ sees a vital role for DCED if planning process is connected more closely to project development and as local land use and "Growing Greener" issues become more important.

Conflict resolution policies in ACM, at least on Department side, need to be revisited. FHWA, in coordination with PENNDOT, should become more aggressive in its role as lead agency. They need to not be so willing to keep trying to resolve every agency issue. They should demand that agencies do more to justify their demands for more information, changes, etc within the project development process. PENNDOT spends too much time and money mitigating for non-regulatory resources.

Elevation process is not a effective tool for resolution of issues. When issues need to be elevated, political pressure has already risen to an ineffective level and additional time and

costs are incurred educating supervisors on issues. At its bureaucratic core, time is the limiting factor for the Department and elevation of issues further hinders the "success" of PENNDOT.

Agencies are generally good at providing comments within reasonable timeframe. However, delays occur when the Department does not provide enough information or submits sloppy work. If agencies find information not acceptable, they will not start their review "clock". This situation is one of teamwork – agencies must be clear in defining the information they need and PENNDOT must be responsive. This situation continues to improve with experience.

Agencies sometimes have difficulty in addressing how alternatives meet the purpose and need of a project. They often attempt to prioritize needs without fully considering effect on all stated needs for project.

Public involvement is very important in its ability to maintain the Department's positive public perception through its "Customer Focus" mission. While public involvement does add some additional time and cost to overall schedule, it is not as difficult as dealing with the varied interests of the regulatory agencies. BEQ would like to see regulatory agencies be more of a partner with the Department in addressing concerns of the public.

Reasonable time frames for Projects: EIS – 3 years (EIS results are only binding for three years) – no more than 5 years, EA – less than 2 years, CE – less than 1 year

Coordination Issues - Department would like to have better access to threatened and endangered species information (USFWS and PNDI). USFWS is understaffed. Difficulty in dealing with USFWS policy that all listed and candidate species are essentially considered endangered. In her opinion, it may be too late to adequately protect many of the listed species and the USFWS should place more emphasis on candidate list in order to reduce the potential for those species to be listed in the future. PENNDOT would be willing to partner with USFWS to do some research, upfront mitigation, or large surveys in exchange for more readily available information and refined guidance on coordination and assessment on T&E species issues.

PENNDOT is currently working with PHMC to redefine the role of PHMC to one of a consulting and information agency. Programmatic Agreement with PHMC has been helpful.

Ideas and Recommendations:

Concurrence points in existing process need to be revised. Options include:

- Elimination of all agency concurrence points.
- Elimination of select agency concurrence points.
- Establishment of two-level concurrence process: permitting agencies and commenting agencies.

Also, should examine consensus process and form. Failure to concur within established timeframes should be procedurally interpreted as concurrence and process should move forward.

The PENNDOT Technical Library consists of a number of in-house video training courses. Currently, these courses include NEPA, Needs Assessment, and Public Involvement. A video on the entire project development process, from programming through construction, would be very valuable for PENNDOT project managers, many of whom are young or newer employees who lack experience.

PENNDOT has experienced a high turnover of project managers over the past few years. Many errors have been made in the project development process based solely on inexperience. The Department needs enhanced environmental training for project managers and an overall training program for entire project development process. Department needs to investigate increased cross training between the engineering and environmental disciplines.

PENNDOT Center for Program Development and Management

Agency/Organization Overview:

The Center for Program Development and Management is responsible for developing and managing the Commonwealth's Twelve Year Program for highways and bridges, mass transit systems, airports and rail freight. The Center also coordinates with county and regional agencies on transportation planning and programming issues.

Issues and Findings:

There is a need for increased public education of the project development process, from programming through construction. The public needs the information to understand the connection between programming and project development.

Improvements to the small projects process will provide "biggest bang for buck" (cumulative effect of small efficiency increase over a large number of projects).

Bridge projects are generally the most problematic in terms of efficient project delivery. This is because the environmental process commonly takes longer than the final design or construction phases.

Ideas and Recommendations:

There is a need to develop better scheduling and estimating techniques to provide the public and PENNDOT with project development time frames that are efficient and realistic. Improvements to MPMS and ECMS will help establish typical time frames for projects

based on actual data. These improvements will help to form basis for improved public expectations.

The development of an educational package on entire project process to share with public, MPO's, county planning commissions, etc. will enhance public understanding and expectations of project development.

PENNDOT Engineering District 4-0

Agency/Organization Overview:

PENNDOT Engineering District 4-0 is responsible for the design, maintenance and construction of state highways and bridges within Lackawanna, Luzerne, Pike, Susquehanna, Wayne and Wyoming counties.

Issues and Findings:

Some projects take much longer to complete than expected, but it is believed that the process moves well given the bureaucracy of the agencies involved.

The bureaucracy of the agencies involved is difficult, specifically on projects where the purpose and need for improvements are viewed as suspect by the resource agencies. The environmental clearance process is being prejudged in these cases.

Using consultants creates some time delays. Hiring a consultant and processing and executing the work order from PENNDOT Central Office is time consuming. Too much time is spent on these issues and it is especially wasteful on small projects. Consultants are often working on several projects at once and may not be able to provide the attention to the project that PENNDOT would like. District 4 has an archaeologist and architectural historian on staff. These two staff members help move the process along, but they are very busy and a consultant is still needed if a study must be conducted.

Section 106 of the National Historic Register – When acquiring right-of-way, the legislation differs for parkland and historic properties. Right-of-way within parkland is much easier to acquire than right-of-way within a historic property, because historic property rights extend to the center of the road. This decision is based upon the taxable parcel.

Section 4(f) – Reviews are needed for not only permanent projects but for temporary uses as well. PHMC has been effective in granting "no adverse impact" rulings for temporary run-arounds and the agency has responded in a timely manner. However, PENNDOT must go through the lengthy process of hiring a consultant to conduct a study. Section 4(f) is a Federal Highway Administration (FHWA) regulation and the programmatic agreement includes FHWA funded projects.

Threatened and Endangered Species Act – Instances of finding threatened and endangered wildlife within District 4 are rare, but when they are found the process can delay a project

for years. An example is the Cross Valley Expressway Bridge project. During an early phase of that project, peregrine falcons were found nesting on the bridge. The discovery of the birds delayed the project for three years. District 4 office has good relationship with the PA Fish and Boat Commission and there have been no delays in the Commission's responses.

Ideas and Recommendations:

Every project has some type of problem and that the process itself works well considering the number of agencies involved. The following recommendations are based upon District 4's experiences with the development process.

PENNDOT should examine its procedure for tasking consultants. Tasking a consultant that already has an open-end contract with PENNDOT can take as long as three months before work can be started. Six weeks of this time is spent processing and executing a work order from the PENNDOT Central Office. PENNDOT's process for tasking consultants should be studied to determine if any time can be saved during this process, or if some work can be conducted simultaneously. Since seasonal conditions have a direct affect on PENNDOT's ability to conduct certain studies, saving a few weeks of time could prevent a project from being delayed for several months.

Additional staff experienced in historical preservation should be hired. District 4 currently has an archaeologist and an architectural historian on staff. These staff members save time because they can work on projects, which include property that is obviously eligible for the National Historic Register. Although they are busy they allow the District 4 office to not have to use a consultant for every review or work around PHMC's schedule. PENNDOT and FHWA are currently funding TEA-21 positions at EPA, Army Corps of Engineers, DEP, PHMC, PA Fish & Boat Commission, and US Fish and Wildlife Services. This arrangement is working well.

Wetlands delineation should be conducted by PENNDOT district offices. This was a problem when it was done by a consultant or someone working outside of District 4. The District currently has someone in their office working on wetlands delineation, which allows them to know where wetlands are located early in the project while other work continues concurrently.

Permit PENNDOT access to PNDI database and update PHMC database of properties eligible for the National Historic Register. PENNDOT had access to the PNDI database at one time, but recent security concerns have disallowed access. PENNDOT now has difficulty acquiring this information. PHMC has a database with information on eligible properties for the National Historic Register. This is in need of maintenance but would assist greatly in the process.

Public participation at the local level should be encouraged. Public participation is the key to good government. It does not slow the development process. Many times, it will provide PENNDOT with the support the agency needs for a project. At other times, citizens have

come up with better ways to align projects. The public's input is an important part of the process.

PENNDOT Engineering District 8-0

Agency/Organization Overview:

PENNDOT Engineering District 8-0 is responsible for the design, maintenance and construction of state highways and bridges within Adams, Cumberland, Dauphin, Franklin, Lancaster, Lebanon, Perry and York counties.

Issues and Findings:

According to the District not much has been accomplished in streamlining in recent years. Past streamlining initiatives have not yielded feedback to the Districts or any effective results.

Some streamlining approaches are already being used or contemplated for projects within the District, such as tiering and the use of an abbreviated EA.

Section 4(f)/Section 2002 is the biggest coordination issue because legal reviews are too lengthy. Also, these regulations sometimes result in poor project alternatives.

Permitting is also another issue which generally requires significant time to complete. Agencies are generally taking local land use issues into greater consideration and often Districts need to repeat information from planning to permit stage.

Mitigation coordination is also an issue when permitting staff does not concur with mitigation commitments and agreements made during the NEPA process.

Purpose and need should not be a concurrent step in the project development process. Development of purpose and need should be sole responsibility of lead agency.

The process needs increased agency responsiveness on project reviews. There is a need to establish enforceable time limits on agency reviews.

There is a need for better environmental screening at programming stage. MPO's should be doing the environmental overview for programming purposes.

Ideas and Recommendations:

There should be education for the public regarding the fact that archeology/wetland mitigation is part of project costs (part of doing business).

There is also a need for statewide planning to provide validation on large corridor projects which affect large regional areas. Currently, there is little or no coordination between regional areas. These regional agencies sometimes have difficulty seeing need for large projects.

For better decision making further development of GIS databases, especially for threatened and endangered species, are needed.

PENNDOT Engineering District 9-0

Agency/Organization Overview:

PENNDOT Engineering District 9-0 is responsible for the design, maintenance and construction of state highways and bridges within Bedford, Blair, Cambria, Fulton, Huntington and Somerset counties.

Issues and Findings:

The project development process is a good one. It does have the necessary decision making steps and the proper people are making the decisions. Some steps could be concurrent or combined. Mitigation of impacts may be able to be brought forward within the process. They have run into problems with this procedure lagging toward the end.

ACM process at district level works well. Most agencies have a clear view of their mission while other sometimes attempt to go beyond their legislated boundaries. Also, personality conflicts sometimes slow down process, but this is happening less frequently as agency representatives have more experience working as a group. District 9-0 has been successful in working through conflicts.

Narrowing range of alternatives to carry forward into detailed studies is the most difficult and lengthy step in the process.

How long should it take: EIS – 3-5 years (with streamlining, 3-4 years), EA – 2-4 years depending on complexity (18 months – 3 years), CE – 6 months or less.

Public involvement is generally helpful for project delivery, although it does add some time and cost to project. Citizen advisory groups have been helpful once the group develops concurrence that a project is necessary. Having concurrence from CAC groups is important to project success, even though PENNDOT must spend some extra time in educating public on project development and environmental and engineering issues.

Secondary development is a big emerging issue. Working with the local municipalities helps to identify and evaluate issues. This should happen early in the planning process.

There are more threatened and endangered species issues, both federal and state. They are adding more species and need to tie into early mitigation.

There are also recent farmland court issues.

Ideas and Recommendations:

The purpose and need phase of the project should be done at the local level (MPOs, LDDs)

- They are closer to projects and can better justify why a project should be done and reasons why it should be put on the 12yr projects
- They can better address the issues.
- They should have the capacity because they already do the project planning
- They would work in conjunction with the other local municipalities
- The challenge for the district currently is getting local concurrence. Having this phase at the regional level would make it easier.
- If this was done earlier in the process it would be faster.

Coordination Issues – Some agencies don't show up for field views at the beginning (scoping) of the project. Some sites aren't looked at by the agencies that will have issues with the project at later phases. A meeting notice is generally sent 4-6 weeks prior to meeting. Non-attendance usually results in delays down the line in the process. PENNDOT should be able to mandate that funded agency personnel attend these field views. They don't ask this for every project and it's important when they do.

PENNDOT Engineering District 11-0

Agency/Organization Overview:

PENNDOT Engineering District 11-0 is responsible for the design, maintenance and construction of state highways and bridges within Allegheny, Beaver and Lawrence counties

Issues and Findings:

The existing PENNDOT processes may benefit from some revisions to provide more consistency between steps and processes.

Threatened and Endangered (T&E) Species/Biological Assessments and Section 106/HAER are common coordination problems. Time restrictions on consultation are not necessarily enforceable. Coordination with state agencies for T&E information (PNDI) is also a problem. PENNDOT should pursue further use of programmatic agreements for T&E issues.

Agencies and regulations are requiring a broader range of alternatives, including Section 4(f) avoidance and wetland avoidance alternatives.

Public does not understand entire process. They generally believe it takes too long to complete projects and does not understand the timeline of the process.

ACM has been helpful to the process, but better participation in field views and scoping activities is needed. The environmental resource agencies generally work together to maintain the "balance" of a project.

Federal transportation agencies (FHWA, FAA, FTA) need to reconcile their processes and requirements with respect to satisfying NEPA. For instance, if a project involves the FHWA and the FAA there may be varying requirements between these Federal agencies within the same project. The FTA and the FRA also have variations for the preparation of NEPA documents which may require coordination with the FHWA.

The MPOs should participate in the development of the project's purpose and need. Project Needs and Preliminary Alternatives and reaching public consensus are the most time consuming aspects of project development process.

Ideas and Recommendations:

It may be beneficial to have a Department Planning and Programming Unit establish the project need before the project is advanced to a consultant or internal team for preparation for environmental clearance.

Need to educate the public on Environmental Clearance, preliminary and final design, right of way acquisition and construction. Produce a video that describes the entire project development process that can be used by the Department at any time, not just at project specific public involvement.

Also try to educate the public as to what PENNDOT does. e.g. what does the environmental, design, geotechnical, construction or permit unit do?

Assemble a "task force" of Environmental Managers to discuss the problems and successes with the project development process.

Involve other State Departments of Transportation – likely to find out that similar issues are addressed and resolved differently throughout the US. Involve other regions of FHWA for the same reasons.

Let PENNDOT work to resolve some of these issues rather than a consultant.

FHWA – Pennsylvania Division

Agency/Organization Overview:

FHWA Pennsylvania Division Office serves as the lead federal agency for federal-aid highway projects within the state. Agency oversees the process of planning, designing and constructing federally funded highway projects.

Issues and Findings:

Threatened and Endangered Species Section 7 Consultation – need specific, easily adaptable guidance.

Section 4(f) – FHWA is currently working on suggestions for improvement through recommendations of Division Offices. FHWA has problem with Department of Interior response – typically 6 months for approval of typical 4(f) statement

PHMC – generally poor response, tend to misinterpret role in process, staffing always a concern, often feel they have final say on eligibility (FHWA as lead agency has eligibility responsibility), don't fully participate in field views due to staffing concerns, need to find ways to provide them needed info in timely and cost-effective manner (use of technology)

Concurrence on steps – FHWA needs to be more aggressive to reduce delay. They must be willing to proceed without agency concurrence after good-faith effort to address

Public involvement – need to do better job educating public on entire process (programming through construction) – public gets confused at purpose and need step.

CAC – need true public input (not just elected officials), need to better use visualization tools, especially physical models.

Feel too much public involvement early in the process can frustrate and confuse public – they want to see alternatives, want answers quickly – need to connect programming and preliminary engineering for public understanding. Also need to educate public that projects occur because local officials want them to occur (programming) – PENNDOT does not just show-up and want to build in their town. Public does not understand bureaucratic process.

Emerging issues: secondary and cumulative – need to do a better job, need to tie projects to a larger regional or state oversight plan. Related to issues of land use and sprawl.

T&E and Cultural Resources – continually more studies, more species/resources added – need better database to address issues.

Environmental justice – need better guidance from FHWA on implementation and interpretation. FHWA is developing checklist for project development. So far, most projects have only identified if a population exists, no real analysis or coordination other

than typically performed. PA FHWA is working on establishing agreements with Native American groups in state. Learning curve for both parties.

Regulatory agencies are increasingly requiring bridge structures rather than box culverts to provide for terrestrial mitigation. Results in increased costs (both design and construction).

Identification of waste/borrow sites for construction activities. Project impacts are potential delay during project development process due to state transportation agency having to perform additional environmental clearance of waste/borrow sites and increased costs to develop additional sites which may be located further from project.

Requirement to secure conservation easement with public/private entities for terrestrial/wetland mitigation sites. Project impacts are potential delay during project development due to state transportation agency unwilling to sign a permit that has a condition requiring the state to secure a conservation easement, in perpetuity, with public/private entities for terrestrial/wetland replacement sites. Also, potential future project cost increase since state will be required to reimburse public/private entities, in perpetuity, for overhead and maintenance costs associated with monitoring repairing terrestrial/wetland replacement sites.

Reasonable Timeframes for Projects -EIS – 5-7 years –EIS projects will always and should take a longer period to develop, EA – 2-5 years, CE – up to 2 years

Ideas and Recommendations:

To streamline process, need revisions to both beginning and end of process. The programming phase (beginning) needs an enhanced role for Metropolitan Planning Agencies. MPO's need more staff, expertise, and tools to provide more detail at programming stage. Greater MPO involvement is especially important for development of project purpose and need and preliminary environmental overview. Also need more emphasis on state-wide long range planning. PennPLAN was good start. Need more focus on freight movements, statewide origin and destination studies, etc to properly evaluate transportation needs at a macro level. DVRPC has done a good job with port study.

MPOs – should be responsible for purpose and need, environmental overview and mode analysis at programming stage, this is the level where local and "state" level planning should be tied together.

MPO's could participate in ACM as viewer, informational participant only – may help bring more reality of process complexity, time and cost realities to local agencies.

MPOs should be responsible for purpose and need and determination of logical termini, cost/benefit analysis and funding plan.

At end of process, need to improve mitigation process. Mitigation commitments have not always been carried through construction. Disconnect exists between commitments in

preliminary/final design and implementation during construction. Need formal mitigation commitment and implementation process – potentially involve permitting folks in ACM process.

Pilot Project – PA Division Office would like to develop a pilot project where an MPO would present a detailed long-range plan for transportation improvements to ACM. ACM would then provide concurrence on purpose and need for overall plan and projects within plan could then proceed directly to preliminary alternatives stage.

US Environmental Protection Agency

Agency/Organization Overview:

US EPA is involved in NEPA compliance via section 309 of the Clean Water Act. The agency fulfills an oversight role in comprehensive consideration of environmental resource protection.

Issues and Findings:

EPA is not involved in the process from the very beginning. The PENNDOT districts that EPA has the best working relationships with are the districts (3, 9, and 12) that include EPA in every phase of the project. These districts continually update EPA on the project status and invite them to attend all project meetings, even if the meetings do not pertain to EPA's concerns. The projects in these districts tend to develop more smoothly than projects in other districts. This is because EPA is aware of all the issues in the beginning, and time is not wasted addressing "surprises". In addition, EPA can assist with providing input on mitigation sites and alternatives, which will allow the approval process to run smoothly.

PENNDOT Project Managers do not play an active role in the process. During some past projects, EPA has had no involvement with the project manager. In some cases, the project managers will not even show up to the meetings and instead leave the consultant to work with EPA. Reaching concurrence on these projects usually takes much longer than on projects that the project manager is actively involved.

In some cases, EPA does not receive enough notice that an EIS review period is about to begin. In addition, the correct number of copies is not provided. This leads to additional delays, because EPA may not be able to comply with the required time limit of the review period.

There is sometimes unwillingness of other agencies to work through the issues. This issue usually occurs in the PENNDOT districts that do not include EPA in the process from the beginning. In some cases PENNDOT will proceed with a project even though EPA has objections and completely ignore EPA's concerns. This also occurs with other agencies and gave the I-99 project as an example. During the project development process, the U.S. Fish and Wildlife Service had objections with the proposed alignment. Instead of working

through the issues and agreeing on mitigation, PENNDOT chose to ignore U.S. Fish and Wildlife Service's comments and continued with the process. This only led to further delays later in the project development process.

Working through the issues of Section 4(f) can be a problem. Each agency has competing interests, which makes it difficult to agree on mitigation. The agencies are often required to sacrifice one resource to save another. Working through these issues can take a long time and the ending result will differ from project to project.

Ideas and Recommendations:

EPA acknowledges that working through the issues and achieving concurrence can take a long time to complete. However, it is an important part of the process and all of the agencies need to work together to agree on mitigation rather than not communicating at all or trying to move ahead with the project. The following are recommendations that may help move this process along more efficiently.

Involvement of the EPA early in the development process is crucial. PENNDOT should make it a policy to involve EPA in the process from the very beginning of the project. EPA should also be included on projects that may not appear to involve them, such as Environmental Assessments and Categorical Exclusions. This early inclusion in the project may prevent delays during review times and reaching concurrence, because EPA will be aware of all project issues.

There needs to be more resources provided to PENNDOT district offices. The districts that are able to dedicate staff with environmental backgrounds to their projects usually have a better working relationship with the EPA. District 9 was listed specifically, because that office has ecologists and biologists on staff.

The EPA is pleased overall with the ACM process. However, the MPO's and local-governing agencies should be included at the meetings. Not only do they play a key role in developing the purpose and need of the project, but their involvement allows EPA to become aware of what other projects may be developing in that area in the future.

US Army Corps of Engineers

Agency/Organization Overview:

The United States Army Corps of Engineers responsibility is the protection of aquatic resources only, and it is often a "balancing" act to reach agreement and equally preserve all resources. The Corps has regulatory authority through the Clean Water Act, especially Section 404.

Issues and Findings:

The current project development process works well, and PENNDOT has done an exceptional job working through the process. The agency and each of the districts have

"come a long way". The following are issues that cause delays and affect the Corps ability to perform reviews in a timely manner.

There is a problem with inaccurate and incomplete data and reports. This data occurs repeatedly during most projects and delays the process. This is particularly bothersome, because PENNDOT frequently uses the same consultants that should be familiar with getting the information that the Corps needs to issue a permit. Examples include water surveys not being completed at all and improper reporting formats.

PENNDOT does not manage its consultants effectively. Many times Corps staff has to direct PENNDOT's consultants or get information from them directly. In addition, consultants should not be giving the Corps work that is incomplete or incorrect. PENNDOT should have reviewed this work for accuracy. This issue is related to the previous issue of inaccurate and incomplete data and reports.

There is a lack of available staff at the Corps Philadelphia office. The Philadelphia office does not have any TEA-21 funded positions, and they are unsure whether TEA-21 funded positions would help alleviate the current staffing problems. The regulatory branch is very busy and could use additional help. It is not possible to hire additional personnel at this time due to the recently approved budget. The budget was increased by only 3% while a cost of living increase of 3.6% was allocated for each employee. With four vacancies to fill, the Philadelphia office will not be able to fill these vacancies with only a 3% increase in the budget.

Ideas and Recommendations:

There should be better supervision of consultants by PENNDOT. The Corps would like to work with PENNDOT directly rather than with the consultants. Since the consultants are hired by PENNDOT they should be managing the consultants' work.

There should be a training seminar to guide consultants and PENNDOT on the Corps requirements for issuing a permit. The Corps has been considering holding a session on the requirements and information the Corps needs to make a permit decision. This information may be helpful to everyone, and it will give the Corps an opportunity to show consultants exactly how they would like the information presented in the report. Consultants are often trying to reinvent ways to present data that is often unnecessary and problematic for the Corps.

There is a need for additional staff for the Philadelphia office at the branch level. The Corps's office needs additional staffing, however the Corps would prefer that funding to hire additional staff be provided by the Corps rather than through TEA-21 monies.

US Fish and Wildlife Service

Agency/Organization Overview:

The U.S. Fish and Wildlife Service's major responsibilities involve migratory birds, endangered species, certain marine mammals, and freshwater and saltwater fish. Key species issues involve bog turtle and mussel species such as the Delaware Dwarf Wedge.

Issues and Findings:

The 10-step process is systematic and has had significant benefits. USFWS has better input on projects because of this process. It has promoted earlier involvement of resource agencies, but that direction needs even greater attention. But, typically the involvement only begins at start of EIS. USFWS has input on EIS projects but would like opportunity for comment on CEs and EAs.

ACM is project oriented, but not process oriented. The growing list of T&E species will likely bring more opportunities for conflict e.g., rattlesnakes in western Pennsylvania. Need more programmatic approaches for routine projects, along with criteria and guidance for approaches that can be taken.

USFWS opposes delegating authority to PENNDOT. Programmatic approach provides a better, more balanced option to outright delegation which should apply to certain projects and project categories. Trusting PENNDOT is key to many projects and this trust is increasing, giving PENNDOT a higher degree of credibility by the resource agencies. Corridor O is a good project to look at regarding the process for collaboration and involvement, as well as the way in which public involvement was managed.

PENNDOT must be very careful in right of way management. In some cases development near roadways closes the door on future expansion options, so they are faced with having to build new parallel facilities. This will require better land use coordination with local communities.

The key is to look at how to better balance impacts on various resources. The resource agencies do meeting annually (RAM) but without PENNDOT.

Ideas and Recommendations:

Early involvement and information sharing is a key to streamlining. Initial selection of alternatives and documentation of existing resources could occur earlier. This can be done through better and more complete mapping.

More emphasis is needed on early impact evaluation and creative mitigation. The planning phase should involve identification and selection of preliminary project alternatives. The more locations, the more sites, the more conflicts. Terrestrial mitigation should also be looked at, at least once there has been a narrowing to 2-3 project alternatives.

Better cooperation with the Corps is needed in the purpose and need phase of the process and MPOs should be at the table to provide an early and complete picture.

There is room for improvement in conflict resolution process—compulsory arbitration would eliminate or reduce project delays.

The first 4 years of the 12-year program should be a trigger for research of critical environmental issues for projects: pull secondary data together earlier when project begins and identify potential conflict areas earlier as well. USFWS is open to the idea of an ACM type retreat to review their process rather than projects.

Pennsylvania Department of Environmental Protection

Agency/Organization Overview:

PA Department of Environmental Protection is involved in compliance with Section 404 and State Chapter 105 regulations on surface water and wetland impacts.

Issues and Findings:

Currently, there are six TEA-21 positions for DEP personnel, located in Philadelphia, Harrisburg, Pittsburgh, Wilkes-Barre and Meadville. Previously DEP had only 3 personnel dedicated to PENNDOT projects. Since this change is rather recent, it is difficult to determine is more personnel have helped to streamline process.

Having erosion and sedimentation and enforcement issue handled at the county rather than state level has helped DEP concentrate more effort on PENNDOT projects.

Erosion and sedimentation plans and permitting adds about 1 year to the overall process for larger projects. This additional time is more than should be needed to complete erosion and sedimentation issues.

DEP changed its policies to allow PENNDOT more flexibility to expedite the process. It became policy that they could apply for the needed 105 (water obstructions and encroachment) permit without the final ENS which is needed for a final 102 (erosion control regulations) permit. This shortened the amount of time for small projects

The engineers on the larger projects are taking advantage of this policy. Because the plans are incomplete there still needs to be an assessment of impacts on resources. Plans used to be completed prior to the application being submitted with some discretion given to the DEP about whether to let a project be permitted without all of the issues being ironed out.

The engineering of PENNDOT projects is going on simultaneously with the permitting process and this leads to multiple revisions and reviews actually slowing down the projects.

PENNDOT engineers are getting pushed to get the preliminary permit but this slows down the entire project, for larger "linear" projects

There is a time savings in this policy which had always been in practice as an option for the DEP staff. Mostly this was used for smaller projects which account for about 80% of all projects. This process should not be allowed for linear projects where PENNDOT should have all issues ironed out before any permits are issued.

Ideas and Recommendations:

Agencies, with PENNDOT's help, need to become better educated about the issues of getting a PENNDOT project done in order to help with some things that are not in their job description. They need to help facilitate PENNDOT's process rather than focus on their personal agenda or just focus on agency items. Having and retaining experienced agency representatives is important for the process to move smoothly.

PENNOT needs to give consultants the proper guidance throughout the process.

Pennsylvania Fish and Boat Commission

Agency/Organization Overview:

The PA Fish and Boat Commission is essentially a resource and comment agency, with no permitting authority except being involved in permitting for disturbances of aquatic resources. PENNDOT funds one position at PFBC to participate in the project development process.

Issues and Findings:

Within the permit process, the PFBC reviews documents and submits comments. Some difficulties lie in the review process because sometimes they don't get all of the information they need. They have 30 days to review the 105 permit (water obstructions and encroachment) application but it is difficult to evaluate impacts without the final 102 (erosion and sedimentation) information. If they had this information they could better minimize the temporary effects of the construction phase. They now rely on DEP for this determination.

They are trying to get more threatened and endangered species information closer to the start of the process because there can be many problems with not enough detail on PENNDOT's part. T&E reviews are only good for one year and DEP staff is often overloaded with requests.

The portion of the process that takes the most time is the narrowing the alternatives to the final alternative. Evaluating all of the alternatives requires the most amount of money.

How long should the processes take (according to the interviewee)? CE-2 months; EA-6 months to a year; EIS- 2 years or more.

Ideas and Recommendations:

Mitigation should be moved toward the middle of the timeline. This will help to expedite the process by allowing agencies more time for this activity. There is no reason they should not be able to get started earlier.

To help things there should be more coordination at meetings – need to have all agencies involved especially in large projects. They do coordinate well at ACMs. PENNDOT is trying to address the common practice of inviting a particular agency to a meeting outside of the ACM and not others. Agency coordination groups must work as a team, not be split into groups on particular projects.

Pennsylvania Historical and Museum Commission

Agency/Organization Overview:

The Pennsylvania Historical and Museum Commission is involved in the review of PENNDOT projects through the powers afforded them under the State History Code and their role in compliance with Section 106 of the National Historic Preservation Act.

Issues and Findings:

PHMC feels the existing process provides a logical set of decision-making steps, but would be unhappy if the process is further streamlined. They believe that if the project process is streamlined too much, steps would be lost and project time would increase because the need to return to earlier process that were lost would arise.

Project alternatives are developed, analyzed, and dismissed too early in the process, before all cultural resource issues have been evaluated. Identification of resources should be completed before alternatives development, to allow PHMC and PENNDOT to work on avoidance of resources. Only after this step should alternatives be developed, APE and criteria of effects be evaluated. The process currently jumps from eligibility to criteria of effect to mitigation, with no discussion of how to work towards a no effects decision. Consulting on effects no longer occurs. If consultation occurred, then alternatives could be discussed, and effects could be minimized. This would eliminate a return to this step when problems arise after decisions are made to early, and a better job would be done on large projects.

There is a problem with PENNDOT scheduling and PHMC gets blamed for delay of project. When a project first gets funded, PHMC does the initial work. Often the project dies and when funding is revived, a huge push to finish the project in a short amount of time occurs. PHMC needs more time to complete these processes.

There is a lack of understanding of what PENNDOT thinks PHMC's mission is. There is a lack of understanding with PENNDOT about how PHMC does business. PENNDOT wants PHMC to make decisions in the field at the lowest level. PHMC is not able to

function that way. For PHMC to make decisions, input is needed on a group level. All the strengths of the bureau are needed: historians, architectural historians, archeologists have different fields of expertise that are needed to make decisions. This cannot be done in the field.

The ACMs are extremely helpful. The meetings are needed. If these meetings were eliminated the project time would increase. PHMC feels they are often thrown into the ACM and are asked to be involved with decisions that aren't their role. They are asked to participate, but then criticized that they don't "play ball fairly". They cannot waiver on their decisions, such as boundary appropriation, or the existence of a site. Wetlands can be moved or rebuilt, but an archeological site cannot. This cannot be negotiated.

PHMC indicated they do not fully participate in the scooping and purpose and need steps of the delivery process. They do not have the staff, and PHMC does more than PENNDOT projects. The purpose of other departments is to identify, PHMC's purpose is to assist and concur.

PHMC tries to complete project reviews in a timely manner. The 30-day deadline is short, and with a staff of 1 reviewing all PENNDOT projects it is difficult. The PHMC committee only meets twice a month to review projects, so coordinating with different individual's expertise needed to complete a review, presenting it for review in front of the committee and completing the project within 30 days is difficult.

PHMC would be willing to work towards alternatives that would minimize effects, but changes in the process need to occur. Historical or archeological significant boundaries, and National Register eligibility are not negotiable. It either is or is not eligible. This flexibility does not occur in PHMC as it does in other agencies. If alternatives were not eliminated in earlier processes, then they could better work towards minimizing negative effects.

It may seem that PHNC changes requirements, but this is because the preservation field is dynamic. What may not be considered historic at one time may be considered historic at a later date. Because of the nature of the preservation field, requirements change.

Archeology reports require the most time and can be the most costly to complete. Some of this can be avoided if alternatives were not dismissed in earlier processes. Because decisions are made too early, PENNDOT is forced into mitigation, which extends the time period and raises costs.

Ideas and Recommendations:

PHMC feels the most effective way to reduce delay is to improve the consultation process and have more complete submissions of information early in the project development process prior to alternatives being considered.

PHMC also felt less argument about each decision, eligibility, and boundaries would help to speed process. PENNDOT should stop trying to side-step Section 4(f) requirements. If the

evaluation needs to be completed, it needs to be completed. PHMC cannot waiver on where a boundary is or significance. It either is or is not eligible.

Lehigh Valley Planning Commission

Agency/Organization Overview:

The Lehigh Valley Planning Commission (LVPC) serves as the Metropolitan Planning Organization (MPO) for the counties of Lehigh and Northampton. The commission has experience in the project development process and have supervised several large projects in the Lehigh Valley area.

Issues and Findings:

The project development process in general is dilatory. Too much time is wasted communicating with bureaucratic agencies, consultants, and individuals. Personality conflicts generate issues and problems reaching consensus on issues.
Section 4(f) - The Pennsylvania Historical and Museum Commission (PHMC) does not have a clear understanding of their mission and wastes too much time studying issues that do not directly affect the project. They take too long to make decisions and their decisions are not consistent. The examples given include the American Parkway Project and Route 222 where PHMC insisted on studying an area a quarter-mile to a half-mile away from the project area that was potentially eligible for the National Historic Register. The area in question was too far from the project area to be impacted. It was decided by PHMC that a historical area would be impacted by the proposed alignment. PENNDOT spent an additional $60 million on the relocation of the alignment and Route 222 was constructed. These additional costs and delays in the development process are caused because PHMC does have a clear goal or understanding their agency's role.

Agencies are involved in issues that are outside of their expertise. Although it is important that all agencies are heard during the process, there are issues that arise that do not concern some of the agencies and too much time is wasted on their comments. An example was given of the Department of Agriculture commenting on the project need. The Department of Agriculture explained that the project was unnecessary because mass transit could take care of the congestion issue. Not every agency should be able to comment on every aspect of the project and the Department of Agriculture should not make recommendations on mass transit.

LVPC believes that ACM has done little to improve the project development process. Part of the problem is the overall setup of the agencies involved. Although PENNDOT usually takes the lead, ACM is a group of parallel agencies with different interests and different agency regulations. Each representative has a niche that they fill, but too much time is spent trying to preserve everything. NEPA was not created to preserve everything but to mitigate and minimize the impacts.

LVPC believes that PENNDOT historically has had a difficult time saying "no" when working with consultants and agencies. The Department may agree to contract changes with consultants, review extensions for agencies, and additional studies that may not actually be necessary. PENNDOT districts tend to check with one another before making decisions, and will delay the process until they agree. The amount of time PENNDOT spends preparing for the ACM meetings is too long. Agencies must notify PENNDOT 3 to 6 months in advance to arrange to speak at the meeting. PENNDOT's Program Management Committee must also approve the meeting agenda and PENNDOT's presentation before they are finalized.

Ideas and Recommendations:

Agencies need to recognize the areas of expertise they bring to the process and provide timely information to the group in these areas. Agencies should also recognize the input of others, but not stop the process to investigate every comment or suggestion. In addition, all agencies should make an effort to return phone calls, answer questions, and complete reviews in a timely fashion.

Guidelines need to be incorporated to "supervise" the process. Since adhering to designated review times and comment deadlines are often missed or extended, guidelines should be added to the NEPA legislation allowing the other agencies to move on in the process if one particular agency or issue is holding them up. The first time an agency misses a review or comment deadline it will be excused. The next time it occurs the process will move on without the agency's comments.

MPOs must be included throughout the process. After the purpose and need of a project is established, MPOs have little involvement in the rest of the process. MPOs may be able to contribute useful information to the studies. LVPC has extensive information on past environmental studies and traffic modeling. Many times the consultants hired by PENNDOT will request this same information from the LVPC. By including the MPO in the process, PENNDOT could obtain the information directly or use the MPO to assist in the studies.

Tri-County Regional Planning Commission

Agency/Organization Overview:

The Tri County Regional Planning Commission serves as the Metropolitan Planning Organization (MPO) for Cumberland, Dauphin and Perry counties.

Issues and Findings:

Involvement in project development is essentially limited to Transportation Improvement Plan (TIP) planning and programming. For PENNDOT sponsored projects, this is to a large degree an administrative function more than a planning function.

TCRPC as staff to Harrisburg Area Transportation Study (HATS) applies 17 criteria in TIP evaluation. These criteria to date have not been applied to PENNDOT projects but those locally sponsored/proposed.

TCPC identifies the need for more up-front collaboration and communication with PENNDOT. This will be especially important in a streamlined process. There is a need to continue to develop a more seamless/collaborative PENDOT-MPO process. The Long Range Transportation Plan should become a stronger, more predictive tool for programming. Projects should flow from it to make a true link between planning and programming.

Air quality conformity analysis is shifting to include more MPO involvement. This shift may have staffing and consultant contract implications.

All but one of the MPO staff in the meeting (5) had no understanding of the Agency Coordination Meetings. One staff member attended an ACM presentation of Corridor One. Implication: today's environment is far from streamlined when the planning agency is not familiar with the post-programming regulatory review and coordination process for project development. It does not appear that TCRPC has much involvement in project scooping field views.

The State Transportation Commission process has been changed to identify projects earlier in the 2-year cycle to give STC more front-end involvement. This poses problems though as TIP is not yet developed. STC hearings used to be at the end of the process.

If MPO influence is to be greater in a streamlining context/scenario, must be plugged into project development from the start.

Streamlining could also be impacted positively by a strong transportation component in county comprehensive plans.

Environmental justice is an emerging issue and staff has been trained. Need to tighten up plan for how involvement will take place. Sort out respective PENNDOT, MPO roles and proactive approach.

Ideas and Recommendations:

There are a number of planning considerations that need up front attention rather than a retrofit approach after programming, such as:

- Bike-pedestrian—this was retrofitted to Harvey Taylor project after programming
- Other alternative transportation considerations and intermodal overall
- Rails to Trails and enhancements
- Open Space
- Transit flexing options and considerations

Streamlining as regards planning and programming will require greater linkages, involvement, coordination, and communication with the MPO.

Will also necessitate capacity building in the forms of training, staffing, and consultant resource access—applies to local government as well.

North Central Pennsylvania Regional Planning & Development Commission

Agency/Organization Overview:

The North Central Pennsylvania Regional Planning and Development Commission serves as the Local Development District (LDD) for Cameron, Clearfield, Elk, Jefferson, McKean and Potter counties. The Commission helps to establish the transportation program for the six-county region.

Issues and Findings:

Increased public involvement increases costs and schedule.

Public perception is that it will take 12 years complete a project. The public does not understand the process. Have a TIP (4 years) and a long range plan. Projects sit too long on the 12-Year Plan and never make it into the TIP. Do away with the 12-Year Plan and replace it with a fiscally constrained TIP and a long range plan.

Resource agencies need to be more flexible in reviewing projects, not focused entirely on their regulatory or mission interests. Also, agency issues and interpretations change from project to project. They need to have more consistency.

ACMs help the process but do not effectively speed the process.

Agencies, especially federal agencies, do a good job in conducting on-time reviews.

Ideas and Recommendations:

LDDs should be formalized as planning agencies and be treated the same as MPOs. LDDs perform the same functions as MPOs and are not afforded the same staff or resources for those duties.

Improve consulting firm contracting time frame. 45 days to have contractor ready to go should be routine.

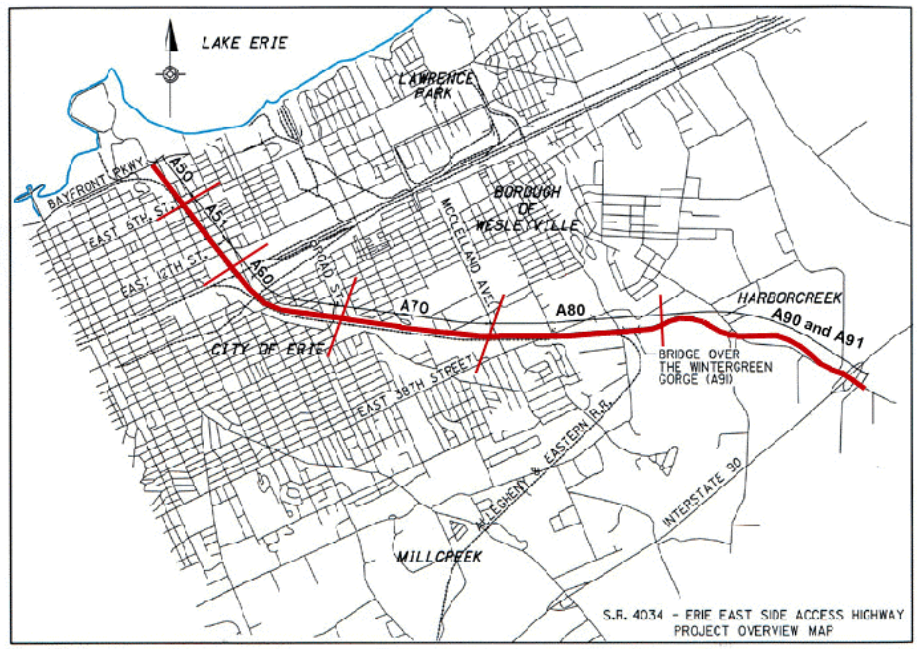
Right of way acquisition before a project is started. Buy ROW when corridor is defined and construct the project in phases. Works well with a long range plan as phased projects can move from the long range plan onto the TIP.

APPENDIX C: Project Profiles

Erie East Side Access Highway, Erie County

Description:

- This project involved the construction of approximately 6.0 miles of new 4-lane highway within the City of Erie, Borough of Wesleyville and Harborcreek Township in Erie County, PA. The project also involved extensive improvements to local streets and roads and establishment of a linear park.



- The purpose of this project was to improve safety and reduce network congestion between the Lake Erie waterfront and the east side of the City of Erie and adjacent communities.
- The study area presented numerous natural resource and socioeconomic challenges, including:
    - Dense residential housing and a college campus;
    - Large industrial facilities;
    - Numerous recreation sites;
    - An active rail line;
    - Several creeks; and
    - Wintergreen Gorge, a unique landscape feature with high biodiversity.

Project Development Summary:

- The project was initially conceived in 1962 with a series of transportation studies. Additional studies occurred in the 1970s and mid 1980s.
- In 1986, the City of Erie completed the East Side Access to I-90 Route Location Feasibility Study. The public rejected the study results due to significant opposition to the recommended corridors.
- In 1990, the City of Erie initiated the Erie East Side Needs Analysis in another attempt to document the growing deficiencies of the roadway system on the east side of Erie.
- In 1992, PENNDOT began work on the Environmental Impact Statement to develop transportation improvements to address the deficiencies identified in the 1990 Needs Analysis.
- The FHWA issued record of decision on EIS in March 1997.
- The first of five construction sections of the project was opened to traffic in July of 1999.
- Construction of remaining sections is scheduled to commence in 2001 and 2002.

Project Development Related Findings:

- Public involvement was a key factor to the success of the project. A 150 member Citizens Advisory Committee was established and organized into numerous, smaller focus groups. Approximately 50 focus group meetings were held throughout the planning process, and seven newsletters and four large public meetings were used to inform the greater community.
- Six ACM meetings, including two agency field views, were held to facilitate agency coordination and decision-making.
- This was one of the first PENNDOT projects to use Geographic Information Systems (GIS) to compile, analyze, and display environmental resource information for a large and diverse project area.

Study Implications:

- One key to public involvement was the role of the District Engineer as lead public involvement official. The history, high visibility and emotional nature of this project required a high level of trust be established between the public and the Department. The District Engineer facilitated every public meeting, providing a high-profile Department presence before the public.
- Use of focus groups enabled accommodation and consideration of often singular areas of concern. This allowed more intimate contact between project team and public, adding to the credibility of PENNDOT.

- Because of the nature of this project, public involvement meetings were not highly scripted to facilitate a more "town meeting" approach. This approach provided for public input into the development of project alternatives.
- Extensive public involvement components of project development can be time and cost extensive but ultimately produce a more effective project.

SR 0058, Foxburg Bridge, Armstrong and Clarion Counties

Description:

- Project involved the replacement of the SR 0058 Foxburg Bridge which traverses the Allegheny River in Armstrong and Clarion Counties.
- The bridge was an old 3-span truss bridge structure that was deteriorating with age.
- Although not a historic structure, the bridge was deemed to be part of a historic district within the Borough of Foxburg.

Project Development Summary:

- The project began in 1987 and has yet to be completed.
- Environmental clearance is expected by the end of 2002.

Project Development Related Findings:

- Project was originally scoped as a Level 4 CE. In 1995 through the guidance of FHWA and the USFWS, the project was elevated to an EA.
- Environmental clearance proved to be a major barrier as endangered mussels were present at the project location. Several mussel surveys, with some taking nearly 2 years to complete, were conducted. In some instances, mussel surveys took 25 months to complete yet the useful life of the study is only 24 months from initiation.
- The designation of the bridge as part of a historic district also created Section 4(f) issues which caused additional delay in project delivery.
- Much of the environmental clearance work (mussel surveys) and historic resource studies were out of scope elements for the study consultant. Therefore, PENNDOT had to secure supplements to fund these activities. The contracting time to process these supplements also created delays in project delivery.

- The project did not have adequate funding in the early 1990s and was delayed as a result.
- Environmental clearance is required for the project to proceed to final design. However, some final design work needed to be completed to determine the resource impacts. Delays were experienced as FHWA needed to provide guidance that allowed some final design work to occur before environmental clearance was granted.

Study Implications:

- Time frames for environmental studies often conflict with prompt project delivery. During these extended periods of time, the protocols for performing the studies may change or the useful life of the study may be exceeded.
- By allowing limited final design activities to take place before environmental clearance, time savings could be gained in gaining environmental clearance. .

Interstate 83 Exits 14 & 15, York County

Description:

- This project involves reconstruction of 1.7 miles of mainline I-83, reconstruction of Exit 14 (Leader Heights Road) and construction of a realigned Exit 15 (Business 83) in York Township. Additionally, the project involved bridge rehabilitations and additional pavement resurfacing along Business 83.

- Purpose of project was to address traffic deficiencies and safety concerns by providing long term improvements to accommodate all modes of transportation while preserving and enhancing the quality of life in the area. The project area includes the infamous "dead man's" curve that is an atypical design for interstate facilities and has posed a safety hazard.

- Roadway served large volume of passenger and truck traffic in a growing area. Safety concerns related to deficient curves on I-83 and left-hand merge movements with Business 83.
- Fast track project – In January 1999, Secretary committed to begin construction during 2003.

Project Development Summary:

- Feasibility Study completed in May 1999
- CE process began in February 2000
- Environmental Clearance expected in December 2001
- Anticipated Preliminary Engineering Cost: $1.64 million
- Estimated Actual Preliminary Engineering Cost - $1.5 million

Project Development Related Findings:

- Project originally scoped as Environmental Assessment. Upon review of study area and potential issues, FHWA and PENNDOT agreed to reclassify as Categorical Exclusion project.
- To achieve fast track schedule, PENNDOT believed public acceptance of this highly visible project and alternatives was a key issue. PENNDOT developed public involvement program that was unusually extensive for a typical CE project. Use of Citizens Advisory Committee and public open house and design centers allowed PENNDOT to achieve public acceptance of project purpose and needs and preferred alternative.
- Design center concept allowed public to participate in development of alternatives and build trust of PENNDOT team.
- Development of feasibility study helped with early identification of environmental issues.

Study Implications:

- While CE process took a long time (2 years) in comparison to more typical CE projects, extensive public involvement was necessary to achieve fast-track schedule. This fact indicates that extended project development time can, at times, be warranted if it results in a better project.
- Use of technology at design center (3-dimensional imaging, graphic traffic modeling, CADD displays) was extremely well received and helped public to better understand the impact of the preliminary alternatives on their community.
- Project website was successful in distribution of project information.

SR 119 Indiana County

Description:

- The SR 119 project involved widening of an 8.3-mile section of State Route 119 from a 2-lane to a 4-lane roadway between Homer City and Blairsville, PA.
- The purpose of the project was to improve safety and travel linkages to support local and regional economic growth.
- SR 119 serves a large volume of coal truck traffic in an economically depressed area.
- This project was originally scoped as an Environmental Assessment (EA) project. Early public controversy over community impacts associated with a widening concept resulted in the need to evaluate bypass options and moved project into Environmental Impact Statement (EIS) class of action.

Project Development Summary:

- Completion of EIS in 22 months:
- Initiation of environmental work – July 1997
- Final EIS completed – October 1998
- Record of Decision received – March 1999

Project Development Related Findings:

- Working with Citizens Advisory Committee to evaluate design concepts and associated cost/impact data allowed sharing of project information throughout community and resulted in public "buy-in" of the original widening concept rather than the bypass concept.
- The use of electronic media for concurrent resource agency reviews resulted in expedited response.
- The use of a detailed preliminary alternatives evaluation provided early resolution of agency concerns and issues and earlier consideration and initiation of mitigation measures.
- The detailed preliminary alternatives analysis also allowed the public to better understand the implications of a widening concept relative to a bypass concept. Therefore, the DEIS could focus on addressing specific community issues.

- Use of a management team helped to provide continuity between agency representatives and PENNDOT personnel and allowed technical team to focus on addressing community and resource issues.
- The environmental document was produced in a CD-ROM format. Use of this technology helped to facilitate shorter and clearer environmental documentation and improve use of graphics in a more cost effective format.

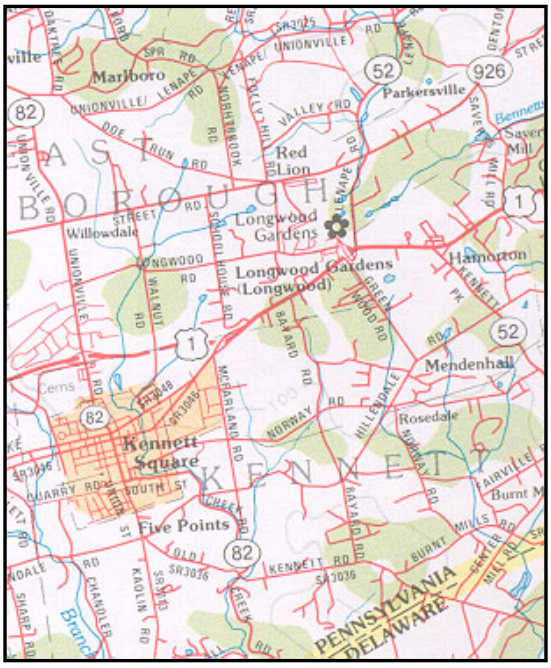
Study Implications:

- The use of more public involvement in the planning phase (discussing and soliciting public reaction to widening and bypass concepts) may have prevented having to prepare an EIS.
- While development of detailed information in preliminary alternatives stage may represent a substantial cost commitment upfront, the payoff may be more efficient and effective screening of alternatives and development of mitigation. This method, however, may be limited to only those projects for which a rather small set of preliminary alternatives is required.
- PENNDOT should make maximum use of alternative forms of communication via electronic media as a complement to traditional public and agency involvement activities.

SR 52, Longwood Gardens, Chester County

Description:

- Project involves development of alternative roadway alignments in the vicinity of the SR 52/US 1 intersection east of the borough of Kennett Square, Chester County. The famous Longwood Gardens, a major tourist site, is located adjacent to this intersection.
- The purpose of the project was to improve access to Longwood Gardens and improve congestion and safety to support existing and future traffic demand within growing residential area.



Project Development Summary:

- Work on EA was initiated in 1996.
- Final EA was circulated in 2001 – awaiting Finding of No Significant Impact and environmental clearance
- Partnership with Longwood Gardens supported preliminary engineering and environmental phase to expedite project.

Project Development Related Findings:

- Although not required for an EA project, the project team took advantage of the ACM process in an attempt to expedite project development and decision-making.
- Historic resource issues and request for terrestrial mitigation caused additional engineering work to avoid resources and caused some delay.
- Public meetings and workshop sessions were well received. Lack of local opposition helped to advance project.

Study Implications:

- Use of ACM and public involvement added additional time to complete EA (5 years).
- US Army Corps of Engineers and US Environmental Protection Agency has reservations with purpose and need for project, since the project was focused on economic development (i.e. improving access to Longwood Gardens). This fact may potentially threaten wetland permitting for the project.
- Confliction resolution was used to address agency concerns but no resolution was reached.
- Overall, use of ACM for this EA project did not provide expedited project delivery.

SR 209, Marshall's Creek Bypass, Monroe County

Description:

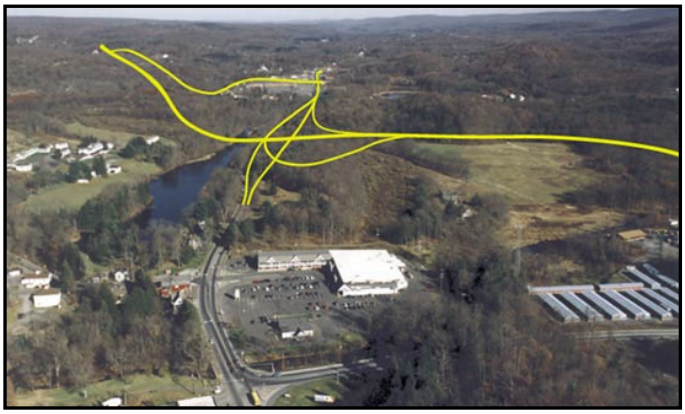
- Project involves development of alternative roadway alignments in the vicinity of the Village of Marshall's Creek, Monroe County.
- The village is located at the intersection of SR 209, Business Route 209 and SR 402 in a rapidly growing tourist area of the Pocono Mountain region.
- The purpose of the project was to improve safety and travel linkages to support local and regional economic growth, due to inadequate transportation infrastructure to support existing and future traffic demand.

Project Development Summary:

- Work on EIS commenced in 1993.
- Final EIS and Record of Decision completed in 2000
- Funding for project development was withheld from 1998 to 1999.

Project Development Related Findings:

- During environmental studies, PA state endangered fish species was found in Marshall's Creek. This species was not listed in threatened and endangered species database or identified during early coordination with federal and state agencies. Upon finding, additional studies were required which added two years to the project schedule.



- Extensive land use study was also included as companion to EIS and helped to develop local "buy-in" of project.

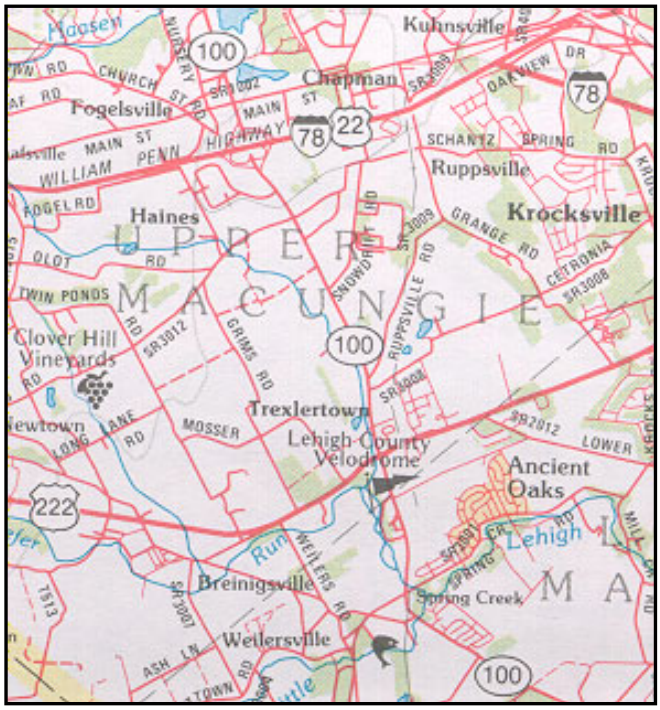
Study Implications:

- Numerous ACM meetings were held during process. These meetings were helpful to the process, but changes in agency staff or sporadic agency involvement sometimes led to confusion over project issues. This lack of continuity led to agency requests for additional studies and information/details on issues separate from their mission.
- Special ACM meetings with limited number of agency representatives helped to address species issues.
- Public involvement activities included large public meetings and small specialty community meetings held to address specific issues or locations within the project area. These were extremely helpful in obtaining public acceptance of project.

US 222, Trexlertown Bypass, Lehigh County

Description:

- Project involves construction of a highway bypass on new alignment in Upper and Lower Macungie Townships, Lehigh County between US 222 and SR 100. The 6.5-mile project is comprised of a 4-lane arterial highway with 7 new intersections.
- The purpose of the project is to improve safety and travel linkages to support local and regional economic growth.
- US 222 serves a large volume of commuter and commercial traffic in a growing employment and industrial area of the Allentown-Bethlehem region.



Project Development Summary:

- Work on EIS commenced in 1989 with project introduction meeting and scoping activities occurring in 1990.
- Final EIS and Record of Decision were completed in 1998.
- Project is currently in final design.

Project Development Related Findings:

- A number of issues arose during preliminary engineering and environmental phase which caused substantial delays in project delivery:
    - Right-of-way issues involving impact upon a local cemetery.
    - Army Corps of Engineers regulatory changes and wetlands permitting/mitigation requirements
    - Changes in ownership/management of an industrial property resulted in a one-year delay to consideration additional alternatives to avoid impacts to industrial operations.
    - Stormwater management design and impact on private property.

Study Implications:

- Project was eventually split into separate construction contracts to facilitate advanced design needed for permitting requirements.
- ACM involvement in project was substantial with 5-6 formal project meetings and numerous field views. These meetings helped the agencies make informed decisions without significant delay.

U.S. 30 Central Section, Lancaster County

Description:

- Project involved highway widening and interchange improvement along a 7.5-mile corridor of U.S. 30 and PA 283 in central Lancaster County. Mainline improvements including widening of the roadway from a four-lane to a six-lane cross section.
- The purpose of the project was to: (1) reduce traffic congestion, (2) improve public safety, (3) correct existing roadway design deficiencies and (4) accommodate future traffic demands.

Project Development Summary:

- Preliminary engineering for the Central Segment, as well as the adjacent segments, began in 1991.
- Preliminary engineering and environmental phase costs were approximately $7.7 million.
- Final design costs were $83 million.
- Construction was expected to be done within 1.5 to 2 years but was completed a year behind schedule. The western section was opened to traffic in December 2001.

Project Development Related Findings:

- ACM meetings were helpful in bringing parties together. ACM concurrence with the project need was readily expressed early on and helped expedite the project delivery process. All agencies agreed that this was a worthwhile job that needed to be completed.

- The project began as an EA but due to extensive cooperation between PENNDOT and FHWA, it was downscoped to a CE. This was a significant step towards streamlining project delivery. Even though property was being taken, there was very little impact being made to wetlands and other natural resources. Also, much work was done within the existing right-of-way. There was also significant early coordination with state and federal agencies and the community.
- The project used "Texas Loop Ramps" which allowed the contractor to bring traffic from an eastbound service roadway to westbound by crossing under the mainline. This allowed motorists to make U-Turns without going through an intersection. This is the first time this method was used in Pennsylvania or the Northeast states.
- There was some concern with rare sedge (PA State endangered species) growing in a stormwater management pond that had a resulting impact on the project's design.

Study Implications:

- Obtaining agency concurrence on downscoping project from EA to CE process helped facilitate a streamlined project delivery process. Even though much coordination was done throughout the project, many coordination needs were no longer necessary as a result of the downscoping after resource agencies became convinced that environmental impacts would be minimal.
- Close coordination with local municipalities carried through final design. PENNDOT acknowledges that it was very important to the overall process to have that kind of open communication. Local municipalities were involved in reviewing designs, which was also a major benefit. This helped to alleviate any "surprises" which could likely surface with a project of this size.
- Public involvement was carried throughout the whole project. Public meetings also aided in the project being downscoped from an EA to a CE.
- The project team held monthly meetings so the design process would go smoothly. Utility companies and railroads were involved in these meetings in an effort to resolve any design issues. There was very little paperwork exchange, as decisions were being made as part of these monthly meetings-even during the final design of the project.

SR 322 – Hinkletown Bridge, Lancaster County

Description:

- This project involved improvements to 0.5 miles of SR 322 in Earl Township, Lancaster County. Improvements consisted of a new bridge over the Conestoga River and upgrading of the SR 322 intersection with Martindale Road (SR 1010) located immediately adjacent to the existing bridge.
- The existing 300' long, 4-span steel I-beam bridge was deteriorated and had substandard roadway geometry. Roadway deficiencies, including substandard intersection geometry and inadequate draining, existed at the intersection of SR 322 and Martindale Road.
- The replacement structure has a span of 285 feet, a width of 57 feet and a dedicated right-turn lane for movements onto Martindale Road. A new traffic signal was installed at the Martindale Road intersection in conjunction with the addition of a left turn center lane for movements from SR 322 East.
- The project involved the staged removal of an existing concrete dam and millrace together with an abandoned 4-story historic stone mill building so as to not adversely affect the river environment both upstream and downstream. To protect an archaeological site, concrete retaining walls were constructed as extensions of the bridge parapet walls at the northeast quadrant.
- Since SR 322 is a principal arterial with traffic volumes of approximately 20,000 vehicles per day, the bridge was designed to be constructed in two stages allowing traffic to be maintained on SR 0322 for the duration of construction.

Project Development Summary:

- Design Duration was 8/98 thru 12/99
- Design Cost was approximately $490,000
- Construction Duration was March 2000 thru September 2001
- Construction Cost was $3.3 Million

Project Development Related Findings:

- Since this was an important local project that would have impacts on movement of traffic through the area during the construction phase, PENNDOT District 8-0- initiated a coordination process with the surrounding municipalities and groups projected to be affected by the project. This effort helped develop a two-stage maintenance and protection of traffic scheme that kept SR 322 in operation during construction.

Study Implications:

- This project was completed in a relatively short time frame considering the physical site constraints, traffic volumes and cultural involvement. Additionally, the project needed to consider the needs of passenger and commercial transportation with the dominant transportation modes (bicycle, horse and carriage, pedestrian) of the local Mennonite community.
- Early local coordination was a key to identifying special needs of community and successful project delivery. Coordination with Pennsylvania Historic and Museum Commission led to successful resolution on cultural resource issues and effective mitigation.

I-99, Centre County

Description:

- Project involves the construction of a portion of Interstate-99 in Centre County
- Project extends from Bald Eagle in Blair County (the current northern terminus of I-99) to the Mount Nittany Expressway (US 322) in State College, Centre County.
- The improvements include construction of a new four-lane limited access highway that will include four interchanges and approximately 18 miles of roadway.
- Once completed, the new and improved roadway will become a part of the Interstate System and signed I-99. This extended I-99 will provide a safe and efficient 80-mile highway that will be a major north-south corridor connecting the Commonwealth's two major east-west corridors, the Pennsylvania Turnpike (I-76) and I-80. The new highway will improve traffic flow through Central Pennsylvania and reduce the mix of high-speed regional traffic (including large truck traffic) and slower moving local traffic.

Project Development Summary:

- Preliminary engineering and environmental analysis began in 1991 and the record of decision was signed by FHWA in October of 1997.
- Construction began in fall 2000 and is scheduled to be complete in fall of 2006.

Project Development Related Findings:

- This was a complex project with extensive natural resource issues and agency coordination and mitigation.
- PENNDOT and the agencies generally worked well together on this complex project, completing the EIS in approximately six years. Partners had good team participation, however the project could have been completed in a shorter period of time if other special projects had not been active at the same time.
- Strategies that helped speed the process included Special Agency Coordination Meetings and 12 public outreach meetings. ACM activities were perceived by PENNDOT as being invaluable to the outcome of the project.
- The project development process was said to have worked for this complex project involving substantial environmental concerns.
- FHWA has provided a $500.000 grant to local organizations for community planning initiatives to consider potential future land use impacts of completed I-99 in Centre County.

Study Implications:

- ACMs are necessary and provide a valuable tool for bring varying interests together to assist in the advancement of a transportation project.
- Because the agencies involved do not report to the same levels of management, there is a delay in decision making due to confusion about who will settle any problems that arise. This situation led to some of the extended project development time experienced with this project.
- Consensus building process needs to take shape. There have been problems with a lack of concurrence leading to a stale mate with the stall of a particular project.
- Also, all partners in the consensus process need to improve decision-making ability of ACM representatives. Escalation of decision-making to upper management individuals who are not closely involved in project development lead to confusion, inefficiencies and increased difficulty reaching consensus.

Corridor O (SR 322 Section B02), Centre County

Description:

- This project involves the study of a new four-lane limited access highway link between Interstate 99 at Port Matilda to Interstate 80 near Woodland in Centre County. Existing SR 322 is a two-lane roadway that runs between the two interstates, but is a free-access facility and experiences congestion as it passes through many small towns. The purpose of this project is to connect the two interstates with a safe, efficient roadway and to eliminate congestion on the existing roadway network.
- This project was created by legislation included in the Transportation Equity Act for the 21st Century (TEA-21). Although the legislation removed the project from the requirement to comply with NEPA, the environmental analysis requirements of PA Act 120 are still applicable. An Environmental Evaluation Report/Section 2002 Evaluation is being prepared by PENNDOT in coordination with federal and state resource agencies.

Project Development Summary:

- Preliminary engineering and environmental studies were initiated in August of 1999 and are projected to end in summer/fall of 2004.
- Estimated cost for preliminary engineering and environmental studies is $2.5 million. Preliminary engineering and environmental studies costs to date are approximately $1.2 million.

Project Development Related Findings:

- The study area is a rural area rich in natural resources. State Game Lands and State Forests may potentially be impacted by the project. Agricultural lands are also present and an important sector of the local economy. A number of threatened and endangered species may occur within the project area. The study area also includes a number of stream corridors and wetland areas and a public water supply. Acid mine drainage from abandoned mines is also a major environmental concern.
- An extensive public involvement program has been developed to accommodate the concerns of citizens, local governments and affected property owners. Resource agencies are also part of the public involvement outreach and are participating as they would for a typical project under the federal NEPA process.

Study Implications:

- Since this project does not have to comply with NEPA, it provided PENNDOT with an excellent opportunity to evaluate a new streamlined project development process that attempts to meet the intent of both federal and state environmental legislation while allowing for faster delivery of a large and complex project.
- The Corridor O project development process uses a format that streamlines the analysis while focusing on continuous public and agency involvement. The process is comprised of four stages: Visioning Stage, Development Stage, Refinement Stage, and Final Comparison Stage.
- The Visioning Stage consists of an expanded scoping process including the public and resource agencies to identify important community and environmental qualities, issues and concerns, and which sensitive environmental features they would like to see protected. The results of this stage provide a set of performance measures to evaluate the merit of project alternatives.
- The Development Stage involves the generation of a wide range of potential alternatives in concert with the public and resource agencies. The potential alignments were assessed against the project performance measures to determine which alternatives should be carried forward into the next project development phase.
- The Refinement Stage involves the detailed study and analysis of those alternatives carried forward from the Development Stage. Preliminary development plans are developed for each alternative and detailed environmental studies take place to determine the potential impacts of each alternative. Additional public and agency involvement is performed to provide the results of these analyses.
- The Final Comparison Stage consists of the distribution of the environmental documentation to solicit comments and recommendations on those alternatives which best meet the project performance measures. This stage is completed with the identification of the Preferred Alternative.
- No formal agency coordination meetings have been held for this project, rather a number of review workshops have been held. This arrangement was agreed to during the Visioning Stage by agencies. Rules for working together were also developed and agreed upon, providing a framework for true partnership.
- Although this project is not complete, the results of the application of this streamlined process will be important for PENNDOT, the resource agencies, and the public to determine if it provides increased efficiency in project delivery.

APPENDIX D: Task Force Issue Prioritization Scorecard

Pennsylvania Transportation Advisory Committee
Streamlining PENNDOT's Project Delivery Process Task Force
Issues Analysis – November 29, 2001

Issue	Initial Magnitude Ranking	Task Force Evaluation*				Composite Score
		Impact/Benefits of Change	Potential for Change	Scope & Scale	Capacity & Resources	
Linkage of Project Planning to Project Development	4	32	25	23	18	98
Agency Mission & Focus	6	28	19	32	17	96
Agency Responsiveness	9	32	22	25	17	96
Concurrence of Agencies	11	28	18	18	23	87
Too Many Detailed Alternatives	10	30	17	21	18	86
Agency Information Requests	3	20	21	24	20	85
Agency Participation	16	26	16	22	18	82
Agency Guidance Protocols	2	26	22	12	19	79
Section 106	8	24	14	22	17	77
Section 4(f)	1	30	8	26	12	76
Mitigation & Permitting	7	24	14	24	12	74
Public Understanding of Process	13	16	27	15	15	73
Threatened & Endangered Species Act	12	28	10	18	14	70
Section 404	17	20	13	22	15	70
Schedule & Cost Estimation	14	15	22	14	15	66
Use of Consultants	15	13	21	13	19	66
Staff Retention and Availability	5	15	14	15	13	57

** For the Task Force Evaluation, each issue was measured with a high, medium or low rank for four criteria. Values were assigned to each rank (4=high, 2=medium, 1=low) to determine a composite score for each criteria and an overall composite score.*