CAN-DO
REFERENCE MANUAL

Guidelines for Implementing
Iowa Department of Transportation's
CAN-DO Project Development Process

October 2001

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[to be added]

CHAPTER 1

Introduction to Can-Do

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CHAPTER 1
INTRODUCTION TO CAN-DO

1.1 DEFINITION AND PURPOSE

Can-Do is a new process designed to streamline and expedite the development of Iowa Department of Transportation (Iowa DOT) projects from concept to contract.

The purpose of Can-Do is:

- To re-engineer the project development process with the goal of reducing development time while maintaining the integrity and quality of the process.
- To facilitate cooperation between Iowa DOT and the regulatory agencies.
- To merge compliance with the National Environmental Policy Act (NEPA) and Section 404 of the Clean Water Act (see Chapter 7 for the Statewide Implementation Agreement to merge the NEPA and Section 404 processes[1]).

1.2 PHILOSOPHY

Can-Do is predicated on the conviction that a better end product will result by integrating planning and design elements, involving the public, using teamwork, building consensus, identifying potential problems early in the process, and avoiding as opposed to mitigating environmental impacts.

Can-Do was never intended to be a cookbook of solutions to all possible problems. Instead, Can-Do stresses flexibility through multidisciplinary project management teams (PMTs). Each PMT consists of experts and decision makers in the major planning and development disciplines who are brought together early in the project planning phase. The PMT is the focal point of the Can-Do development process.

1.3 FEATURES

Key features of Can-Do improve the project development process, as summarized below.

1.3.1 The PMT

Can-Do gives the PMT full responsibility for managing a project. The PMT is charged with the following functions:

[1] The *NEPA process* refers to the development of a full and fair discussion of the social, economic, and environmental issued associated with a proposed project and its reasonable alternatives. Its purpose is to ensure that the policies and goals defined in NEPA are infused into the ongoing programs and actions of the federal government. The *Section 404 process* refers to the permitting of a project involving discharge of dredged or fill material into waters of the United States. The permitting of such a project is subject to provisions of Section 404 of the Clean Water Act.

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- Identify issues early in the process.
- Develop solutions tailored to the needs of the individual project, based on all available data and engineering judgment.
- Provide continuous guidance and ownership – from project planning through construction.
- Set the schedule and then keep the project on time and on budget throughout the development process.
- Identify needed project resources and work with the Iowa DOT office directors to schedule those resources when needed (see the Can-Do Gantt Chart in Appendix A).

The district engineer (DE) establishes a PMT by contacting the directors of the Offices of Design (including the Corridor Development Section), Environmental Services, and Right-of-Way as well as the Federal Highway Administration (FHWA). PMT membership includes representatives from:

- Iowa DOT district – transportation planner and assistant district engineer (ADE)
- Office of Design – design project engineer, design staff, consultant (for outsourced projects), and Corridor Development Section (location engineer and senior location design technician)
- Office of Environmental Services – depending on the project and stage of development
- Office of Right-of-Way – manager of Right-of-Way Operations
- Office of Bridges & Structures – design section engineer, design staff, and consultant (for outsourced projects)
- FHWA Operations Team
- Offices of Program Management, Bridges & Structures, and Contracts, Office of Design – Soils Design and Photogrammetry/Preliminary Survey Sections, and Bureau of Support Services – Agreements Section
- Other internal and external resources as needed to provide additional expertise

The work of the PMT is coordinated by district staff, led by the DE and others as appropriate during development. For example, the district planner leads the team for planning and pre-location activities, the ADE leads the team as the project moves into design, and the district construction engineer (DCE) takes over during construction.

(See Chapter 3, Guidance for PMTs, and Appendix B, PMT Checklists, for more detail.)

1.3.2 Proactive and Continuous Public Involvement

Can-Do provides early contact with the public and ample opportunities for public input, in formal and informal settings, throughout project planning and development.

Oversight of the public involvement effort is assigned to the districts in coordination with the Office of Design–Corridor Development Section and the PMT. Field Services staff in each district play a major role.

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Public involvement is modeled around a design process that provides quality details earlier in the process. The PMT is empowered to customize the public involvement process to the needs of an individual project with the external customers. (See Chapter 4, Context-Sensitive Design; Chapter 5, Development of a Public Involvement Program; and Chapter 6, Techniques for Public Involvement, for further information.)

Because of the enhanced public involvement process, projects require only a single public hearing (that is, a combined location and design hearing), although the PMT may initiate more than one public hearing if it deems necessary. In addition, a series of public information meetings take place. Making information on planning and development more accessible to stakeholders than in the past improves communication and increases accountability.

1.3.3 Expedited Project Development

Can-Do uses parallel planning, design, and development to minimize linear sequencing. Several development tasks—such as cost estimates, environmental analysis, and right-of-way (ROW) acquisition—begin at an earlier point in the schedule. When a Can-Do project is programmed, approximately 25 to 35 percent of the design work has already been completed.

The seamless, optimized development from concept to contract promotes the fiscal soundness and credibility of the project because:

- More complete data are available at key decision points (such as improved project costs estimates at the time of programming).
- The PMT is better able to establish and maintain a development schedule and deliver the project on time for letting.
- Fewer changes are required.
- Accelerated ROW acquisition provides time for additional public involvement in accordance with State of Iowa (State) law.
- The project can be ready for letting about two and one-half years after review of the project by the Iowa Transportation Commission (the Commission) and the public hearing.

1.3.4 Avoidance of Impacts

In keeping with the Can-Do commitment to avoid rather than mitigate impacts, the following tasks occur early in the development process:

- Define the limits for the environmental analysis.
- Contact resource agencies and other external stakeholders.
- Complete environmental investigations, delineation, and identification of potential problem areas.

In cases where avoidance is not practical or feasible, proactive measures can minimize impacts. The broad range of mitigation options includes:

- Use of wetland banking rather than a project-by-project mitigation program

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- Early acquisition of, or negotiation for early access and recovery rights to, sites with archaeological or historic importance in order to complete evaluation, documentation, and possible artifact recovery on sites that require State ownership or owner sign-off
- Remediation of regulated substances before a construction project is let

1.3.5 Consensus Building

Provisions for buy-in at various stages of the project development coordinate development efforts and minimize rework. The Office of Environmental Services adheres to the principles identified in the MOA to merge the NEPA and Section 404 processes (see Chapter 7):

- Conduct scoping meetings at pre-arranged development times to ensure that resource agencies concur with the purpose and need statement, scope of investigations, and results from the investigations.
- Initiate environmental investigations early to identify problems in a timely manner.
- Clear a wide corridor during environmental investigations to minimize rework and ensure that potential borrow areas are included.
- Thoroughly document the potential for avoiding and minimizing impacts in all study corridors, and the reasons for selecting the preferred alignment.[2]

Concurrence points play a critical role in the consensus-building process. "The intent is to preclude the routine revisiting of decisions that have been agreed to earlier in the process and encourage early substantive participation by the agencies."[3]

1.3.6 Wider Footprints for Archaeological and Architectural Studies

Can-Do provides for adequate archaeological and architectural studies to ensure clearance for parcels where the total land acquisition requirements are not obvious early in the planning process. For each alternative developed and under study, archaeological investigations typically delineate roadway clearance widths as follows:

- New alignment – all identified borrow areas and 1,200 ft on each side of the centerline (if known) or 200 ft outside of the corridor limits (if the centerline is not known)
- Addition of two lanes – all identified borrow areas, 1,000 ft on the construction side, and 500 ft on the nonconstruction side.
- Reconstruction and super 2 roads[4] – all identified borrow areas and 500 ft on both sides of the centerline for two-lane roadways or 200 ft on the outside of existing ROW limits for four-lane roadways.
- All side roads – 500 ft on both sides of the centerline, for a minimum distance of 3,000 ft left and right of the mainline centerline.

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[2] A complete environmental document is prepared and available for consideration before the preferred alignment is selected.

[3] "Statewide Implementation Agreement, National Environmental Policy Act and Clean Water Act Section 404 Concurrent NEPA/404 Processes for Highway Projects in Iowa" (see Chapter 7).

[4] *Super 2* refers to a two-lane road with periodic turn lanes and acceleration lanes for truck.

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Historical and architectural studies evaluate these same clearance widths, plus buildings and real estate improvements on all properties affected by the footprint.

1.3.7 Uniform Development Process

Using Can-Do, only one development process is implemented for all projects. Each Type I and Type II project[5] requiring an environmental document and additional ROW is assigned to a PMT. The PMT is responsible for evaluating the project and initiating a development schedule.

For all other projects (that is, Type II and III projects not requiring an environmental document or ROW), the Office of Design or Office of Bridges & Structures designates a PMT composed of individuals from the district and from the Offices of Design or Bridges & Structures, Right-of-Way, Environmental Services, and other offices as appropriate.

1.4 HISTORY

1.4.1 Development

To strengthen their partnership, Iowa DOT and FHWA cooperatively developed 21 joint program goals based on interviews of Iowa DOT and FHWA management. In 1997, the overall program goal was defined:

> *Program Goal: To streamline the project development process*

To implement this goal, the Iowa DOT Project Development Division[6] Quality Council established a Process Subcommittee, which developed a charter:

> *Charter: To review the development process with the goal of reducing development time while maintaining program integrity and quality (January 9, 1997)*

The Process Subcommittee also created a Process Development Improvement Team (PDIT) to review the development process (see Table 1-1).

The PDIT developed a mission statement and a motto:

> *Mission Statement: To re-engineer the development process between the Commission's approval and the letting of major (Type I) projects with the goal of reducing development time while maintaining the integrity and quality of the process. (May 8, 1997)*
>
> *Team Motto: To go boldly where no one has gone before.*

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[5] A Type I project is a major change, and a Type II project is a minor change. See the Glossary for definitions of Type I, II, and III projects.

[6] The Project Development Division became the Highway Division as a result of Iowa DOT restructuring in the year 2000.

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Table 1-1. Process Development Improvement Team

Member/Facilitator	Position	Affiliation
Scott Dockstader	development engineer	Iowa DOT District 1
Bruce Matzke	assistant division administrator	FHWA
Bob Stoecker	assistant office director	Iowa DOT Office of Design
Wendal Johnston	assistant office director	Iowa DOT Office of Bridges & Structures
Bill McGuire	assistant office director	Iowa DOT Office of Right-of-Way
Mark Kerper	development section engineer	Iowa DOT Office of Design – Corridor Development Section
Pete Tollenaere	construction engineer	Iowa DOT District 5
Mike Kennerly	production schedule engineer	Iowa DOT Office of Contracts
Jim Rost	environmental engineer	Iowa DOT Office of Environmental Services
Carol Culver	facilitator	Iowa DOT Office of Development Support

Early PDIT meetings identified that, to maximize potential time-savings benefits, the process review would have to include planning in the early development process. It also became evident that re-engineering was not an endeavor PDIT could undertake because of the scope. Recognizing early in the development process that to re-engineer would require looking at the micro-level of operations, PDIT chose to stay at the macro-level. Therefore, PDIT focused on cycle time reduction and hired a consultant, Carl Johnson, who based his assistance on the Total Quality Institute's publication *Cycle Time Reduction, Implementation Workshop.*

In November 1997, PDIT produced a report that outlined a new development process called "Can-Do."

1.4.2 Implementation

1.4.2.1 Can-Do Implementation Team

In February 1998, four individuals (Tom Cackler of the Highway Division, Dennis Tice of the Planning and Programming Division, Neil Volmer of the Modal Division, and Colin MacGillivray of the Research Management Division) chartered a Can-Do Implementation Team (see Table 1-2). The charter read, in part: "The Implementation Team shall be responsible for managing and coordinating the implementation of the 10 recommendations from the Improvement Team (PDIT). Since some recommendations are more critical to the goal of reducing development time of projects, the recommendations will need to be prioritized. The goal is to be fully operational by the end of 1998."

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Table 1-2. Original Implementation Team

Member	Position	Affiliation
Roger Bierbaum	office director	Iowa DOT Office of Contracts
Harry Budd	office director	Iowa DOT Office of Design – Corridor Development Section
Scott Dockstader	district engineer	Iowa DOT District 1
Don East	office director	Iowa DOT Office of Design
Mark Kerper	Development Section engineer	Iowa DOT Office of Design – Corridor Development Section
Bruce Matzke	assistant division administrator	FHWA
Bob North	office director	Iowa DOT Office of Right-of-Way
Jim Rost	environmental engineer	Iowa DOT Office of Environmental Services
Dave Little	assistant office director	Iowa DOT Engineering Bureau

1.4.2.2 Process Improvement Teams

The Implementation Team encouraged Iowa DOT offices to look at ways of improving the development process through process improvement teams at the micro-level.

1. Production scheduling team, chartered in August 1998 to "establish events and descriptions of events for monitoring projects being developed under the 'Can-DO' process using the flowchart contained in the October 1997 'Can-Do' Final Report." (A portion of this team's work product is contained in Chapter 2, Can-Do Scheduling.)
2. Public involvement team, chartered in October 1998 to "recommend a Public Involvement Process that supports 'Can-Do' by identifying applicable state and federal requirements for public involvement, recommend a process to customize public involvement, and develop a matrix of public involvement options to assist in customization." (See Chapter 5, Development of a Public Involvement Program and Chapter 6, Techniques for Public Involvement.)

1.4.2.3 Review Teams

Several other review teams were chartered at office levels to study and report on process issues between individual offices:

- The level of detail needed for digital terrain models (DTMs) – Office of Design and Corridor Development Section
- Automation/Computer-Aided Drafting and Design (CADD) compatibility – Offices of Design, Bridges & Structures, and Right-of-Way, and Corridor Development Section
- Complete plan submittal from the Office of Design to the Office of Right-of-Way

1.4.2.4 Partnering Efforts

Further partnering efforts were undertaken by several Iowa DOT offices and sections, such as the offices of Design, Bridges & Structures, and Right-of-Way; Design, Right-of-Way, District Land Surveyors; and Office of Design–Corridor Development Section.

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1.4.2.5 Implementation Steps

The first step in implementing Can-Do was to ensure that Type I projects entering the development process were using Can-Do. During 1998, several projects were identified as Can-Do and PMTs were established.

A major focus of the Implementation Team was to train PMT members concerning their responsibilities and to acquire feedback on how the Can-Do process was functioning, as follows:

1. Conducted a Can-Do PMT workshop in the fall of 1998 to present the concepts of Can-Do and discuss the roll of PMT members.
2. Conducted listening sessions in late March through early April 1999 to hear problems and successes and to explore opportunities for improvement. From this effort, a "Guidance for PMTs" was developed and distributed (see Chapter 3).
3. Prepared a PMT checklist that includes the modified value engineering (VE) process approved by FHWA in December 1999 (see Appendix B, PMT Checklists, and Appendix C, Value Engineering Authorization).
4. Conducted a second PMT workshop in September 2000.

The Implementation Team took a reorganization sabbatical in early 2000. For the most part, the reorganization consolidated essential Can-Do functional responsibilities within Iowa DOT districts and the Highway Division's Engineering Bureau, as shown in Table 1-3.

Table 1-3. Implementation Team after Reorganization

Member	Position	Affiliation
Sandra Larson	bureau director	Iowa DOT Engineering Bureau
Mitch Dillavou	office director	Iowa DOT Office of Design
Scott Dockstader	district engineer	Iowa DOT District 1
Don East	office director	Iowa DOT Office of Traffic & Safety
Gerry Kennedy	Environment and Realty manager	FHWA
Mike Kennerly	scheduling engineer	Iowa DOT Engineering Bureau
Mark Kerper	section leader	Iowa DOT Corridor Development Section
Norm McDonald	office director	Iowa DOT Office of Bridges & Structures
Ron Otto	office director	Iowa DOT Office of Right-of-Way
Jim Rost	office director	Iowa DOT Office of Environmental Services

1.4.2.6 Can-Do Status of this Document

In December 1998, the Implementation Team determined that the Can-Do process was fully operational. As Can-Do is applied over time, however, more opportunities will arise to hone the process. It is recognized that Can-Do is actually the first step on a journey to development excellence. The Highway Division is committed to a continuing quality improvement review for the macro-development process within 3 years.

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1.5 FREQUENTLY ASKED QUESTIONS

During development and validation of the proposed process, PDIT consulted a wide range of internal and external customers. The following are typical questions.

Question 1: What projects are intended to be processed with the proposed plan?

The Can-Do process is specifically intended for Type 1 projects. However, a process that can handle the most complex projects can equally be used for any lesser project. Therefore, the Can-Do process is designed for all Iowa DOT work. The type of project and its complexity determines which tasks in Can-Do are applicable when developing the production schedule. The PMT is charged with developing the initial development schedule.

Question 2: Who heads the PMT, and what authority does the team leader have?

The work of the PMT is coordinated by district staff, led by the DE and others as appropriate during development. (See Section 1.3.1, The PMT, for more information.) The team leader prioritizes development work, identifies needed resources, influences the project concept, and takes the lead for involvement with the general public and other project stakeholders. The team does not have resource allocation authority other than negotiation and commitment responsibility for the offices each member represents.

Question 3: How does the Commission's role fit into the proposed process?

The Commission's role for programmatic decisions has not changed. In fact, the importance of these decisions has significantly increased and, as with other processes, shifted to an earlier starting point. In the Can-Do process, the district and Corridor Development Section are responsible for working with the Commission to identify priority projects and request spending authority for development costs prior to programming.

A project is formally brought back to the Commission for final approval and funding authorization after the combined formal hearing. The division directors and Iowa DOT districts routinely keep the Commission apprised of project-specific information.

Question 4: What effect does shortening the development process have on the time between citizen contact, appraisal, and acquisition? Will this make acquisition much more difficult because it takes awhile for the property owner to work through this? Will it result in more parcels in condemnation?

This question has two somewhat different aspects:

- The Can-Do process does not shorten the public involvement process. In fact, the process is modeled around more public involvement and better design detail earlier in the process. For example, the first public involvement occurs about the time a project concept is written. This is well before any Iowa DOT site activity occurs. It should be noted that the Iowa DOT districts have the ability and

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responsibility to customize the public involvement process to fit the needs of the individual project, public, or special interest groups.

- The time from an acquisition agent's initial contact with a landowner to ROW acquisition has been shortened by approximately 2 years. This does not account for the early contact. The Implementation Team has discussed how much up-front time is needed and appropriate.

Question 5: Why does Can-Do have a single hearing, as opposed to two?

The single hearing process is considered better suited for an optimized development schedule. A combined corridor hearing and design hearing is called a "location plus hearing." When a formal hearing is conducted, more details are available than at the current location hearing. About 25 to 35 percent of a project is complete at the formal hearing.

The entire proposed development concept is designed around a proactive and continuous public involvement process. To help accomplish that goal, project oversight has been moved to the Iowa DOT districts. Further, the Can-Do process inserts informational meetings into the early phases of development. Customer service is actually enhanced because, in the two-hearing process, a 3- to 6-year time period between location and design hearings was not unusual.

Question 6: What is included in the 35 percent complete?

By this milestone, the following have been accomplished:

- A viable project with a well-defined scope or concept has been developed.
- The corridors have aerial photography, and a design level (accuracy) DTM has been created.
- A basic geotechnical evaluation of the corridors has been conducted.
- The horizontal and vertical geometrics, template, and project footprint have been established.
- The interchange or intersection location and basic geometrics have been completed.
- Access classification and predetermined accesses (PDAs) have been determined.
- Historic and archaeological Phase I and Phase II investigations have been completed.
- Wetlands have been delineated, and the draft Section 404 permit application has been completed.
- The proposed ROW acquisitions have been investigated for regulated substances.
- A field survey (hard shots) for missing data has been conducted in stages with timely delivery.
- At least two public involvement meetings have been held, and affected resource agencies, utilities, and railroads have been contacted.

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Question 7: How can environmental issues be moved to an earlier stage in the process?

The key is being in an avoidance mode rather than a mitigation mode, as follows:

- Can-Do combines some aspects of the environmental responsibilities. For example, it may cost more to conduct historic Phase I and Phase II investigations together. An end-to-end philosophy would complete Phase I and move into Phase II only if needed. Under the previous process, decisions were sometimes made with incomplete data, as project development marched forward. Each phase, along with the decision process, takes time. Therefore, combining two tasks not only produces better data for earlier decision making but also shortens the time it takes to initiate a Phase III recovery action, if needed.
- Some tasks, such as the investigation for hazardous substances and the delineation of wetlands, are moved earlier in the process. These tasks also have to be completed for potential additional alignments.
- ROW is acquired early for environmental investigations, should the situation or need arise, and for Iowa DOT to conduct mitigation.

Question 8: What are the advantages of the Can-Do process?

The cornerstone of the Can-Do process consists of:

- The PMT concept. This moves project management responsibility closer to the customer and provides continuity from the planning phases to development and into construction.
- Increased public and resource agency involvement. Moving the management of a developing project to the district level brings public contact to the local level gives districts the ability to schedule or use any number of public involvement techniques.
- A seamless process, from location to concept to design. This process reduces the number of changes and increases ownership by the participants.

Other major advantages are:

- A defined process allows teamwork and mutual sharing of common goals and visions.
- A reduced development time means a better response to the customers' needs.
- The one formal hearing is conducted slightly later in the development process, allowing more complete design information for the hearing. This also allows a more developed project cost estimate, thereby reducing fiscal constraints.
- Improved and more flexible development oversight.
- A greater percentage of completed design work before a project enters the Five-Year Transportation Improvement Program. This increases the ability to accurately estimate project costs, thereby enhancing the fiscal soundness of the funding program.
- Increased predictability in the delivery time once a project is programmed, which enhances credibility.

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Question 9: Is Can-Do more expensive?

Can-Do would intuitively appear to cost more than a conventional linear project development process because investigations focus on a wider footprint and consider multiple alignments. Actually, Can-Do improves efficiencies through consolidation, empowerment, and working smarter. The process is designed to reduce rework, minimize duplication, eliminate hand-offs (transfer of responsibility), provide better engineering estimates at programming, shift the critical path for development to controllable internal processes, and move a project to letting sooner.

It is very difficult to assess a process cost. Some aspects of Can-Do are more expensive, but the expense is measurable. For example:

- It costs more to conduct environmental investigations on more options or a wider footprint within a corridor.
- It costs more to fly more corridors at a lower flight level to get higher photo resolution. These up-front costs are more easily identified, but the overall value must be considered, not just costs. For example, Can-Do:
  - Provides for a coordinated and more continuous customer-oriented public involvement and understanding of a proposed project.
  - Identifies and recognizes environmental problems early in the development process, when there is time to avoid the problem or fully identify and quantify the problem so that cost considerations can be incorporated into a project.
  - Uses a holistic approach to project development to improve project management of scope, schedule, and budget.

Question 10: What is the role of Iowa DOT districts?

Can-Do moves management of project development closer to the customer and gives the districts a major management role. For example:

- The planner and ADE are involved in the project concept to ensure that a specific transportation need is being met.
- The planner and ADE, to varying degrees, manage the development of a project through letting.
- The planner and ADE are primarily responsible for public involvement and passing public comments and needs back to the designers.
- The DCE provides expertise on staging, constructibility, etc.
- The district maintenance manager provides insight into the serviceability and acceptability of the final product.

CHAPTER 2

Can-Do Scheduling

Notes

CHAPTER 2
CAN-DO SCHEDULING[7]

This chapter provides a tool for deciding whether an event is needed for a project. It includes:

- A list of typical tasks, or events, for scheduling Type I Can-Do projects
- A description of each event code, including its inputs and outputs.

This information is not intended to be all-inclusive, with the full range of variations necessary to schedule the different types of Iowa DOT projects. Rather, it shows the basic events necessary to enable a PMT to develop an initial schedule. For the latest updated scheduling information, contact Iowa DOT Engineering Bureau's scheduling engineer.

2.1 LIST OF EVENT CODES

Table 2-1 lists the event number, event code, event definition, and office primarily responsible for completing each event. Appendix A contains a typical project timeline in the form of a Gantt chart.

Table 2-1. Event Codes for Tracking Can-Do Projects

Event No.	Code	Definition	Affected Parties
1	RANK	Rank Projects	Commission, Planning & Programming Division, Iowa DOT Highway Division staff
2	FPMT	Form Project Management Team (PMT)	District Office
3	CNPT	Develop Project Concept	District Office, Corridor Development Section, PMT
AN (as needed)	PMTG	Hold Public Information Meeting	District Office, Corridor Development Section, PMT
4	INFO	Collect Preliminary Information	District Office, Corridor Development Section, Office of Right-of-Way, PMT
5	ESCP	Conduct Environmental Scoping Meeting	Office of Environmental Services, PMT
6	TDAT	Order Traffic Data Analysis	District Office, Office of Design – Corridor Development Section
7	OAPH	Order Aerial Photography	Corridor Development Section, PMT
8	EDOC	Prepare Environmental Document	Office of Environmental Services – Document Section

[7] Mike Kennerly et al., June 1999, *Can-DO Production Schedule Team – Final Report.*

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Table 2-1. Event Codes for Tracking Can-Do Projects

Event No.	Code	Definition	Affected Parties
ALT 8	DEIS	Prepare Draft Environmental Impact Statement (DEIS)	Office of Environmental Services – Document Section
9	FLYT	Provide Aerial Photography	Office of Design – Photogrammetry, Preliminary Survey Section
10	ENDS	Investigate Threatened and Endangered (T&E) Species	Office of Environmental Services – T&E Section
11	P1&2	Perform Cultural Resources Work	Office of Environmental Services – Cultural Section
12	REG1	Perform Initial Regulated Substance Review	Office of Environmental Services
13	WTL1	Conduct Fieldwork for Section 404 Permit	Office of Environmental Services
AN	PMTG	Hold Public Information Meeting	District Office, Corridor Development Section, Office of Right-of-Way, PMT
14	PDTM	Create Preliminary Digital Terrain Model (DTM)	Office of Design – Photogrammetry, Preliminary Survey Section
15	GEO1	Perform Preliminary Geotechnical Review	Office of Design – Soils Design Section
16	TCS1	Conduct Land Surveys for Property Acquisition	District-Land Surveyors
17	ALTS	Develop Alternatives	District Office, Corridor Development Section, PMT
18	REG2	Perform Field Investigation for Regulated Substances	Office of Environmental Services
19	WTL2	Prepare Section 404 Permit Application and Mitigation Design	Office of Environmental Services – Wetlands Section
20	UMTG	Hold Utility Coordination Meeting	District Office, PMT, Support Services Bureau
21	RMTG	Hold Railroad Coordination Meeting	District Office, PMT, Office of Rail Transportation, Modal Division
22	RWRL	Prepare Relocation Plan	Office of Right-of-Way – Corridor Development Section

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Table 2-1. Event Codes for Tracking Can-Do Projects

Event No.	Code	Definition	Affected Parties
23	CNVE	Conduct Concept Value Engineering (VE) Study	District Office, PMT
AN	PMTG	Hold Public Information Meeting	District Office, Corridor Development Section, Office of Design, PMT
24	PAL	Determine Preliminary Access Locations	Office of Traffic & Safety, District Office, PMT, Corridor Development Section
25	PTSL	Develop Preliminary Type, Size and Location (TS&L) Structure Information	Office of Bridges & Structures
26	PCUL	Determine Preliminary Culvert Locations	Office of Bridges & Structures
27	FDTM	Develop Final DTM	Office of Design – Photogrammetry, Preliminary Survey Section
28	HEAR	Conduct Public Hearing	District Office, Corridor Development Section, Office of Design, PMT
29	FEIS	Prepare Final Environmental Impact Statement (FEIS)	Office of Environmental Services, FHWA
30	PJRV	Conduct Project Review	District Office, Corridor Development Section, Office of Design, PMT
31	PDES	Prepare Design	Office of Design
32	CMAP	Obtain Commission Approval	District Office, Corridor Development Section
33	FONS	Prepare Finding of No Significant Impact (FONSI)	Office of Environmental Services – NEPA Section
ALT 33	PROD	Prepare Record of Decision (ROD)	Office of Environmental Services – Document Section
34	DVEN	Perform Design VE	Support Services Bureau, VE coordinator
35	DFEX	Conduct Design Field Exam	Office of Design, District Office
36	GEO2	Perform Geotechnical Fieldwork	Office of Design – Soils Design Section
37	FTSL	Develop Final TS&L and Culvert Layout	Office of Bridges & Structures – Preliminary Design Section
38	RWEV	Acquire ROW for Environmental Work	Office of Right-of-Way, Office of Environmental Services, Office of Design
39	WTLP	Receive Approved Section 404 Permit	Office of Environmental Services
40	PLBG	Submit Plans to Office of Bridges & Structures	Office of Bridges & Structures – Preliminary Design Section

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Table 2-1. Event Codes for Tracking Can-Do Projects

Event No.	Code	Definition	Affected Parties
41	FPDA	Determine Final Access Locations	District Office, Office of Traffic and Safety, Office of Design
42	PLRW	Submit Plans to Office of Right-of-Way	Office of Design
43	RWDS	Perform ROW Design and Layout	Office of Right-of-Way – ROW Design Section
44	RWPS	Complete Plot Plans and Summary Sheets	Office of Right-of-Way – ROW Design Section
45	TCS2	Complete Certified ROW Plats and Legal Descriptions	District Land Surveyors
46	REG3	Conduct Final Regulated Substances Review	Office of Environmental Services
47	RWFE	Perform ROW Field Exam	Office of Right-of-Way, District Office, PMT
48	CPKG	Recommend Contract Packaging	Office of Contracts, District Office, Office of Design, PMT
49	P3HA	Conduct Phase III Historic/ Archaeological Mitigation	Office of Environmental Services
50	FDES	Develop Final Road Design	Office of Design – Urban Design and Rural Design Sections
AN	PMTG	Hold Public Information Meeting	District Office, Corridor Development Section, Office of Design, PMT
51	RWAP	Conduct ROW Appraisal	Office of Right-of-Way – Appraisal Section
52	RWAC	Perform ROW Negotiation	Office of Right-of-Way – Negotiation Section
53	RWOC	Complete ROW Relocations	Office of Right-of-Way – Relocation Section
54	FBRG	Perform Final Bridge Design	Office of Bridges & Structures – Detail Design Section
55	RWTC	Complete ROW Title Transfers and Closing	Office of Right-of-Way – Title & Closing Section
56	GEO3	Perform Final Geotechnical Design	Office of Design – Soils Design Section
57	RWCN	Complete ROW Condemnation	Office of Right-of-Way – Acquisition Section
58	FPLN	Submit Final Plans	Office of Design, Office of Bridges & Structures
59	LETT	Let Project	Office of Contracts

Notes

2.2 DESCRIPTION OF EVENT CODES

2.2.1 Event No. 1: RANK

Code and Definition	RANK – Rank projects
Action	Prioritize Type I planning study projects to determine which projects should be active and to authorize expenditure of funds on approved projects.
Purpose	To prioritize projects so that development efforts are expended on projects likely to be funded.
Needs (to describe the project to decision makers)	• A list of current planning studies in the program • An overall project concept (with typical cross sections, access control, bypasses, route continuity) based on the Office of Systems Planning's long-range plans
Output	• A list of planning study projects, with priorities assigned • A filed request for services for aerial photography in the following year (typically completed in the fall preceding the year the photography is needed)
Affected Parties	Commission, Iowa DOT Highway Division Staff, District Engineer, Office of Program Management, Corridor Development Section

2.2.2 Event No. 2: FPMT

Code and Definition	FPMT – Form Project Management Team (PMT)
Action	Form a PMT for each Type I and Type II project that is likely to require an environmental document. Typically, include the district engineer, planner, and assistant; Corridor Development Section location engineer and design technician; Office of Design section engineer and design technician; and a representative from FHWA, the Office of Right-of-Way, and the Office of Environmental Services.
Purpose	• To provide guidance and continuity as the project develops through the planning, design, and construction phases. • To improve customer service and public involvement. • To add accountability and project support from concept to letting.
Needs	• Project ranking • General project concept listing in the Transportation Implementation Plan/State Transportation Implementation Plan (TIP/STIP)

Notes

Output	Ongoing guidance for the project. The PMT is responsible for setting and maintaining the project schedule and identifying project resource requirements. All members act as a liaison to their offices and areas of specialty
Affected Parties	At the beginning of each project or pre-location study, the district engineer, in conjunction with staff and in consultation with the Corridor Development Section, will contact the Offices of Design, Right-of-Way, Environmental Services, and Bridges & Structures (Preliminary Bridge Section, as needed), and request representation on the team. PMT membership is provided to the Iowa DOT Engineering Bureau's scheduling engineer for tracking.

2.2.3 Event No. 3: CNPT

Code and Definition	CNPT – Develop Project Concept
Action	Identify potential alternatives that meet the overall project concept, as defined in Event No, 1 – RANK, Rank Projects. Validate or write a purpose and need statement.
Purpose	To identify project corridors and location alternatives that meet the project purpose and need. (The environmental reviews are initiated on the identified corridors.)
Needs	• High-flight aerial photography • Quad maps • Traffic estimates • As-built plans • Known environmental concerns derived from Geographic Information Systems (GIS) databases • Long-range plans from the Office of Systems Planning • A defined purpose and need • Bridge data • Sufficiency ratings • Accident data • Property ownership information • Project ranking from the planning study grouping from the 5-year program
Output	The identification of all viable corridors with potential alignments, with enough detail for ordering digital terrain models (DTMs) and aerial photography.
Affected Parties	District Office, Corridor Development Section, Office of Design, PMT

Notes

2.2.4 Event AN (as needed): PMTG

Code and Definition	PMTG – Hold Public Information Meeting (old P9 Event)
Action	Hold the first meeting early in the process to gather and disseminate information. Note: Public information meetings occur at several points during the development process to gather and disseminate information.
Purpose	• To inform the public of possible highway projects. • To collect the public's input regarding the project purpose and need as well as perceived transportation needs. • To solicit the public's input in identifying highway corridor issues that could limit or restrict alternatives.
Needs (for the initial public information meeting)	• Corridor limits • Purpose and need statement • Aerial photography • Public contact information from Office of Right-of-Way
Output	Increased public awareness and involvement in the project development process
Affected Parties	District Office, Corridor Development Section, PMT

2.2.5 Event No. 4: INFO

Code and Definition	INFO – Collect Preliminary Information
Action	Begin to collect relevant and available project data about existing ROW, property owners and addresses, tenant addresses, businesses, preliminary property plats, etc., within the corridor(s) being studied. Note: Until the preliminary database is complete, each office is responsible for adding information or making changes as circumstances warrant. This effort begins the process of making dynamic (continually refined) project information readily available on line and minimizes collection of the same data by different offices.
Purpose	• To consolidate the information-gathering efforts of various district offices. • To create a contact and property information database each office can use for contacts. • To gain general early information about affected property owners.

Notes

- To provide data for use by:
  - Internal customers (within Iowa DOT) as a resource for identifying contacts and increasing public awareness and involvement in the project development process.
  - External customers (Iowa DOT consultants) as a source of contacts to gain right of entry or to do data searches for various outsourced tasks.

Needs

- Corridor alignments
- Project limits
- Courthouse information on property owners
- Sidwell maps

Output

Oracle database on the local area network (LAN) or DOTNET applications (for use in Event No. 13)

The database should contain businesses, utilities, property owners and/or tenant names, addresses, phone numbers, property descriptions, etc. It could also include or link to preliminary computer-aided design/drafting (CADD) or GIS files that have identified property boundaries, known utilities, and public parks, etc.

Affected Parties

District Land Surveyors

2.2.6 Event No. 5: ESCP

Code and Definition

ESCP – Conduct Environmental Scoping Meeting

Action

Conduct a meeting with environmental resources agencies and local jurisdictional representatives who wish to attend.

Purpose

- To establish a dialogue with the resource agencies.
- To provide the resource agencies with basic project information, including a purpose and need statement.
- To determine any known concerns that could influence the alignment alternatives.
- To arrive at a consensus as to the purpose and need, acceptability of the proposed study alternatives, and the scope of environmental evaluation.

Needs

- High-flight aerial photography
- Quad maps
- Traffic estimates
- As-built plans

Notes

- Known environmental concerns from GIS databases
- Long-range plans from the Office of Systems Planning
- A defined purpose and need
- Bridge data
- Sufficiency ratings
- Accident data
- Property ownership information
- Project ranking from the Planning Study Section

Output

- Identification of all viable corridors with potential alignments
- Consensus with resource agencies about the project purpose and need

Note: The corridor must be identified in sufficient detail to allow a the project location to be described, potential impacts to be analyzed, potential interchanges to be identified, a typical template to be developed, and the level of access control to be proposed.

Affected Parties: Office of Environmental Services – Document Writer or NEPA Coordinator

2.2.7 Event No. 6: TDAT

Code and Definition: TDAT – Order Traffic Data Analysis

Action: Order an analysis of the traffic data for the corridor improvement project, including:

- Projected average daily traffic (ADT) for the design year and beyond for both the mainline and intersecting roads
- An analysis of turning movements for intersecting roads and other designated locations, with a breakdown showing the percentage of trucks and directional traffic flow effects.

Purpose: To use in the development of alternatives and design requirements, and in the environmental document.

Needs

- A map of the project corridor
- Targeted design year
- Locations requiring turning movement analyses
- Project description, including the type of work
- Purpose and need statement

Notes

Output	Traffic projections and turning movement analysis.
Affected Parties	Office of Systems Planning, Office of Design – Corridor Development Section, District Office, PMT

2.2.8 Event No. 7: OAPH

Code and Definition	OAPH – Order Aerial Photography
Action	Order low-level aerial photography suitable for the production of design-quality DTMs (typically completed in the fall preceding the year the photography is needed)
Purpose	To use in the development of the DTM, public meeting displays, planning and design studies, and environmental investigations.
Needs	Corridor alignments or study areas.
Output	Aerial photography of the proposed corridor(s), either in photo or digital form Note: For early, less precise work, this task could also include ordering satellite imagery.
Affected Parties	Corridor Development Section, District Office, PMT

2.2.9 Event No. 8: EDOC

Code and Definition	EDOC – Prepare the Environmental Document
Action	Prepare a document that describes and evaluates the expected social, economic, and environmental impacts of all alternatives proposed for a highway project. Note: The Office of Environmental Services, in coordination with the FHWA division office, determines the type of environmental documentation. An environmental assessment (EA) is prepared when the expected environmental impacts of a project are not immediately clear.
Purpose	To enable Iowa DOT and FHWA to determine whether: • The project is not expected to result in any significant social, economic, or environmental impacts, in which case a Finding of No Significant Impact (FONSI) is prepared and processed, upon which the project may proceed, or • The project is expected to result in significant impacts or will be controversial on environmental grounds, in which case the EA is expanded into a full Environmental Impact Statement (EIS) (see Event No. Alt 8, DEIS) and processed in accordance with National Environmental Policy Act (NEPA) and FHWA regulations.
Needs	• Maps or aerial photos with delineated project corridors

Notes

- Property owner information
- Brief description of the project purpose and need and general concept
- Alignments being considered, including proposed interchange locations
- Current and targeted design year traffic estimates
- Results of preliminary surveys for regulated (hazardous) substances
- Protected plant and animal species
- Cultural resources (Phase I surveys)
- Results of the environmental scoping meeting
- Any information from preliminary public information meetings wetland delineations, preliminary estimates on residential and business displacements, and similar relevant data

Note: Some of this information will already be available, and some will become available as a result of early coordination contacts and requests for input initiated by the writer.

Output

- (optional) A preliminary draft EA may be produced for FHWA review.
- An EA signed by the FHWA and made available to appropriate agencies and the public. The event is then considered completed.

Note: EA comments are incorporated into the DEIS or FONSI (see Event No. 33 – FONS), which is submitted to FHWA for signature, and made available to outside agencies and the public.

Affected Parties: Office of Environmental Services – Document Section, NEPA Section, FHWA

2.2.10 Event No. ALT 8: DEIS

Code and Definition: DEIS – Prepare Draft Environmental Impact Statement

Action: Draft a comprehensive, full-disclosure document that, in accordance with NEPA and FHWA regulations, fully describes each of the proposed alternatives, including anticipated individual and cumulative impacts on the environment.

Note: A DEIS is prepared when Iowa DOT and FHWA have determined, either at the onset of planning or upon preparation and review of an EA, that the project is likely to result in a major federal action with significantly affecting the quality of the human and natural environment or is likely to be highly

Notes

controversial. Preparation includes gathering data, writing the document, and circulating the DEIS to federal, State, and local reviewing agencies and the public.

Purpose

- To communicate Iowa DOT's and FHWA's findings with regard to expected environmental impacts and mitigation commitments to resource agencies and the public.
- To give the resource agencies and the public the opportunity to review and comment.
- To serve as a tool for decision-making and documentation of environmental commitments.

Needs

- Maps or aerial photos with delineated project corridors
- Property owner information
- A brief narrative describing the project purpose and need and general concept
- Alignments being considered, including proposed interchange locations
- Current and targeted design year traffic estimates
- Results of preliminary surveys for regulated (hazardous) substances, protected plant and animal species, and cultural resources (Phase I surveys)
- Results of the environmental scoping meeting
- Information from preliminary public information meetings
- Wetland delineations
- Preliminary estimates of residential and business displacements
- Other, similar relevant data is also needed

Some of this information will already be available, and some will become available as a result of early coordination contacts and requests for input initiated by the writer.

Output

A DEIS signed by FHWA and approved for circulation. This event will be considered completed only when the DEIS is circulated for review and signed by FHWA.

Note: A preliminary DEIS may be produced for FHWA review. Review comments are incorporated into the published version of the DEIS.

Affected Parties

Office of Environmental Services – Document Section, FHWA

Notes

2.2.11 Event No. 9: FLYT

Code and Definition	FLYT – Provide Aerial Photography
Action	Provide aerial photography for the project corridor(s).
Purpose	To generate the aerial photography needed to create a DTM and orthogonally corrected digital imagery. There are opportunities to use satellite imagery for some needs and applications that have less precision.
Needs	Description of the project corridor(s), including: • Alignment alternatives • Desired height of photography • Accuracy level for the DTM • Width of the project corridor(s)
Output	Aerial photography of the project corridor suitable for use in creating a DTM or base record for GIS and other spatially referenced applications. Note: This is a seasonal activity, usually preformed by a vendor in the spring. Spring flights provide the best opportunity to get a view of the terrain that is not obscured by vegetation or distorted by snow.
Affected Parties	Office of Design – Photogrammetry, Preliminary Survey Section, PMT, Corridor Development Section

2.2.12 Event No. 10: ENDS

Code and Definition	ENDS – Investigate Threatened and Endangered (T&E) Species
Action	Conduct a field study and prepare a written report to establish the presence, or likely absence, of any State- or federally listed protected plant or animal species. Note: Conduct the field studies only when evidence exists that suitable habitat may be present or when a protected species is known to inhabit the area.
Purpose	• To locate and identify any State- or federally protected plant or animal species, or its habitat, within each alternative project corridor that may be affected by construction. • To allow full consideration of protected natural resources when evaluating alternatives.
Needs	• Maps or aerial photos with delineated alternative project corridors

Notes

- Property owner information within the corridors
- GIS survey maps of known locations from resource agencies
- Data from environmental scoping meeting
- Coordination with local, State, or federal resources agencies

Output

- A habitat or species survey report for review and comment by the resource agencies, and for inclusion of pertinent data in the environmental document (EA or EIS)
- A summary letter and comments from reviewing resource agencies for inclusion in the environmental document (EA or EIS)

Affected Parties: Office of Environmental Services – T&E Section

2.2.13 Event No. 11: P1&1

Code and Definition: P1&2 – Perform Cultural Resources Work (includes Events No. 11A, 11B, 11C, and 11D)

2.2.13.1 Event No. 11A: P1&2A

Code and Definition: P1&2A– Perform Phase IA, Phase I Full Historical Survey (concurrent with Events No. 11b, 11c, and 11d)

Action

- **Phase 1A Survey**: Conduct an archival records/literature search, perform a preliminary exterior visual examination, conduct local area interviews, and possibly prepare a preliminary report.
- **Phase 1 (Full) Survey**: For all alternative project corridors, conduct a more in-depth review of structures or other historic property identified during Phase IA; include a detailed study of early maps, literature search, ownership records, and other sources to gather sufficient evidence about the property; submit to the State Historic Preservation Office (SHPO) for review and determination of eligibility for the National Register of Historic Places (NRHP).

Notes

Purpose	To locate, identify, study, and evaluate any standing structures that have the potential to qualify for listing on the NRHP or any items of cultural significance. Typical candidates are over 50 years old and have distinctive characteristics of type, period, method of construction, or associations with a person or event significant to local, State, or national history. Note: All planning and design activities require thorough and adequate consideration of the avoidance of historically or culturally significant properties unless there is no reasonable or practical alternative. The "no reasonable or prudent alternative" clause of Section 4(f) of the U.S. Department of Transportation Act of 1966, as amended, applies to publicly owned parkland as well as to historic sites.
Needs	If the Phase IA survey is complete: • Field notes and other information gleaned from the Phase IA survey • Property owners' permission to access the site, including permission to enter buildings to examine, photograph, and measure their interiors If Phase IA is not yet completed: • Maps and GIS data • Aerial photos with alternative corridors delineated • Property owner information within the corridors • Owner or tenant permission to access the property • Survey data and/or benchmarks for global positioning system (GPS) field data logging.
Output	A letter of comment from the Iowa SHPO staff historian, based on the Phase I written report(s), that either (1) agrees that no historic or architectural properties will be affected by the project; (2) requests that Iowa DOT provide additional information before a determination can be made; or (3) concurs with the recommendation that one or more historic properties identified during Phase I appear to be eligible for the NRHP. Receipt of the letter of comment from the SHPO marks completion of the historic event. Note: Information from these studies and documented evidence of Iowa DOT avoidance studies are included in the environmental document (EA or EIS).
Affected Parties	Office of Environmental Services – Cultural Section

Notes

2.2.13.2 Event No. 11B: P1&2B

Code and Definition: P1&2B – Perform Phase I/Phase II Archaeological Survey (concurrent with Event No. 11A)

Action

- **Phase I Survey**: Conduct a records or literature search and local area interviews, a preliminary walk-over survey of the ground surface, and subsurface probing; gather geomorphological information about potential buried prehistoric sites for the development of an archaeological report to submit to SHPO; include SHPO comments received on one or more proposed project alternative corridors.

- **Phase II Survey**: Conduct an intensive, subsurface investigation of an archaeological site identified during the Phase I survey; use soil probes and augers, post holes, hand-excavated test units, or other appropriate excavation equipment to gather sufficient evidence about the site to (1) establish its horizontal and vertical boundaries and (2) facilitate a determination by Iowa DOT/FHWA and SHPO concurrence as to the site's eligibility for the NRHP; normally, prepare a data recovery plan to be approved by SHPO if the site is found to be eligible.

Purpose

- **Phase I Survey:** To locate and identify any subsurface archaeological sites within each alternative project corridor that may be affected by project construction; to make a preliminary evaluation of the significance of those sites; to allow thorough and adequate consideration, during future planning and design activities and in the environmental document, of avoidance of those sites.

- **Phase II Survey**: To establish horizontal and vertical boundaries and generate enough data to allow a determination by Iowa DOT/FHWA and concurrence by SHPO as to eligibility of the site for the NRHP.

Note: Sites eligible for listing in the NRHP must be avoided by the project, or the impacts mitigated by means of a SHPO-approved data recovery plan.

Needs

- **Phase I Survey**: Maps and GIS data, aerial photos with alternative corridors delineated, property owner information within the corridors, and owner or tenant permission to access the property, survey data or benchmarks for GPS field data logging.

- **Phase II Survey**: Maps or aerial photos with alternative corridors delineated, property owner information within the corridors, owner or tenant permission to access the

Notes

property, staked ROW limits near the sites, survey data or benchmarks for GPS field data logging, and permission to conduct shovel-tests, test pits, or trench transections.

Output

- **Phase I Survey**: A letter of comment from the Iowa SHPO staff archaeologist, based on the Phase I written report, that either (1) agrees that no significant archaeological sites will be affected by the project; (2) requests that Iowa DOT provide additional information before a determination can be made; or (3) concurs with the Iowa DOT/FHWA recommendation that one or more sites identified during the Phase I survey appears to be significant and should be subjected to Phase II testing to establish significance and boundaries. Receipt of the SHPO letter of comment marks completion of the event. All information is included in the environmental document.

- **Phase II Survey**: A letter of comment from the Iowa SHPO staff archaeologist, based on the written report, that either (1) concurs with the Iowa DOT/FHWA recommendation on eligibility or (2) requests additional information to reach a concurrence determination. Receipt of the SHPO's letter of comment marks completion of the event.

Note: Information from these surveys is included in the environmental document.

Affected Parties: Office of Environmental Services – Cultural Section

2.2.13.3 Event No. 11C: P1&2C

Code and Definition: P1&2C – Notify Tribes

Note: This event is triggered by a finding, or potential to find, prehistoric sites of importance or human remains.

Action: Identify and notify American Indian tribes that might have traditional cultural properties (TCPs) located within a project impact and taking area.

Purpose

- To research the National Park Service's Native American Consultation Database (NACD) and consult the SHPO list to identify which of the over 20 American Indian tribes that formerly lived in Iowa may have concerns in the project area. This involves drafting a letter and providing documentation about the projects impact area, known prehistoric archaeological sites, and possible TCPs or prehistoric burials in the project area for FHWA to send to the identified tribes.

Notes

- To address any comments and concerns in letters returned by the tribes. This could involve providing more information, including tribes in consultation; providing signatures to an MOA for affected archaeological sites; and coordinating a visit to significant archaeological sites affected by the project.

Needs

- Tribal list from NACD and SHPO
- Project corridor maps
- Archaeological information from Phase I and/or Phase II fieldwork

Output

- Letters from FHWA (drafted by Iowa DOT) to the identified tribes
- Comment letters from interested tribes to express that the tribes (1) have no concerns or are satisfied with Iowa DOT's actions to address any possible concerns or (2) do have concerns and wish to be consulted further in some manner

Affected Parties: Office of Environmental Services – Cultural Section, FHWA

2.2.13.4 Event No. 11D: P1&2D

Code and Definition: P1&2D – Sign Memorandum of Agreement (MOA)

Note: This event triggers whenever a project will cause an adverse effect on an NRHP-eligible archaeological site or historic property.

Action: Secure signatures for the contractual agreement between FHWA and SHPO (and sometimes the Advisory Council on Historic Preservation) for resolution of adverse effects on historic properties though avoidance, minimization, or mitigation. The agreement is signed by FHWA, SHPO, and those who have responsibilities under the MOA.

Purpose: To record an agreement reached by FHWA, SHPO, and any consulting parties for the treatment of significant archaeological sites or historic properties to be adversely affected by construction of the project. The treatment could be protection or preservation measures, additional studies, data recovery, recordation or publications, or even an agreement that the loss of the resource is an acceptable cost of the proposed project.

Needs

- Consultation with FHWA, SHPO, and parties with an interest in the historic property
- Provision to the Advisory Council on Historic Preservation of documentation of studies and findings

Notes

	leading to the agreement
Output	Signed MOA that records an agreement for resolution of adverse effects and allows data recovery, recordation, or other mitigation measures to proceed.
Affected Parties	Office of Environmental Services – Cultural Section, FHWA

2.2.14 Event No.12: REG1

Code and Definition	REG1 – Perform Initial Regulated Substance Review
Action	Through the Office of Environmental Services, initiate the preliminary assessment of properties that are or may be contaminated by regulated substances. The assessment is noninvasive and consists of a database search, visual survey, and interviews.
Purpose	• To identify properties that are or may be contaminated. • From this preliminary review, to notify the Corridor Development Section, Office of Design, Office of Right-of-Way, and District Office about properties to avoid. Note: If avoidance is not possible, the Office of Environmental Services conducts more in-depth assessments (see Event No. 18, REG2 – Perform Field Investigation for Regulated Substances) to determine whether existing conditions present a potential liability for Iowa DOT, to determine whether avoidance is possible, or to develop an acquisitions strategy.
Needs	• Maps or aerial photos with delineated alternative corridors • Property owner information • Parcel numbers • Legal descriptions of affected property within the corridors
Output	A summary memo and/or consultant's report that describes the results of the assessment and presents recommendations to the Corridor Development Section, Office of Design, Office of Right-of-Way, and District Office. All information is included in the environmental document.
Affected Parties	Office of Environmental Services – Regulated Materials Section

Notes

2.2.15 Event No.13: WTL1

Code and Definition	WTL1 – Conduct Fieldwork for Section 404 Permit
Action	Review and delineate all corridors for potential impacts on wetlands and waters of the U.S.
Purpose	To identify areas with potential wetland impacts. This information is used by highway designers when laying out alignments to avoid impacts, when feasible. The Office of Design will document efforts to avoid wetland impacts. If avoidance is not possible, documentation is needed for minimization efforts.
Needs	• Corridor boundaries marked on an aerial photograph • Purpose and need statement • Potential borrow sites • Contact and property information database (created in Event No. 4) • Access to private property within the corridors • Regional GIS information from resource agencies • Natural Resources Conservation Service (NRCS) soil maps • Information from environmental scoping meetings • Data from public information meetings
Output	Maps of alternative corridors with wetland boundaries marked and wetland determinations with some qualitative analysis (field truthing). All information is included in the environmental document.
Affected Parties	Office of Environmental Services – Wetlands Section

2.2.16 Event AN: PMTG

Code and Definition	PMTG – Hold Public Information Meeting (old P9 Event) Note: Public information meetings occur at several points during the development process to gather and disseminate information.
Action	Hold an informal public forum to discuss issues; collect input relative to the project purpose and need as well as transportation needs perceived by the public; and identify problems/issues in the project corridor.
Purpose	To disseminate, gather, and exchange information on possible highway projects.

Notes

Needs	• Corridor limits • Purpose and need statement • Aerial photos
Output	Increased public awareness and involvement in the project development process. All information is included in the environmental document.
Affected Parties	District Office, PMT, Corridor Development Section, Office of Design

2.2.17 Event No. 14: PDTM

Code and Definition	PDTM – Create Preliminary Digital Terrain Model (DTM) Note: The preliminary DTM is a three-dimensional ground model generated from aerial photography. A preliminary DTM typically has a 1-meter contour interval for vertical control and is sufficient for corridor development.
Action	Complete the fieldwork necessary for establishing project photo control. Information gathered includes GPS control network, major utility locations (gas), densification of GPS control, bench level run, and establishment of as-built alignment, photo control.
Purpose	To provide terrain information for corridor analysis.
Needs	• Aerial photography • Corridor limits
Output	Project control, a Microstation planimetric file, and digital orthography.
Affected Parties	Office of Design – Photogrammetry, Preliminary Survey Section, PMT

2.2.18 Event No. 15: GEO1

Code and Definition	GEO1 – Perform Preliminary Geotechnical Review (old S1 Event)
Actions	Review corridor/plans for any grade or alignment changes necessitated by soils design considerations; identify multiple potential borrow sites.
Purpose	• To allow soils design constraints to be incorporated into selection of the preferred alignment; • To allow survey coverage and all clearances (archeological, environmental, etc.) to start on potential borrow sites.

Notes

Note: Hydric soil and potential wetland impacts are handled by Office of Environmental Services and are not a GEO1 function.

Needs

- Any available EIS-type information
- Proposed corridor limits
- Aerial photo layout
- Topographic maps
- Grade and alignment proposals
- General estimate of borrow need and distribution
- Any other available and pertinent information

Output: Documentation (a letter with attached plan sheets, air photos, etc.) of any horizontal or vertical restrictions or alignment areas to avoid for geotechnical reasons, and outlines/limits of all GEO1 potential borrow sites, including discussion as necessary and appropriate.

Affected Parties: Office of Design – Soils Design Section

2.2.19 Event No. 16: TCS1

Code and Definition: TSC1 – Conduct Land Surveys for Property Acquisition (old T1 Event)

Action: Locate or establish all property lines, section lines, existing road center lines and rights-of-way; enter this information into GEO-PAK and Microstation; create an ASCII or GPK file for use by the Offices of Design and Right-of-Way, Design Section.

Purpose

- To locate, by analysis of the evidence and professional judgment, the exact location of all legal land lines and lines of occupation.
- To provide this information is for use by the Office of Right-of-Way, Office of Design, and the District Land Surveyors.

Needs

- GPS control coordinates and monument locations
- Aerial photographs
- Proposed road corridor
- Land owner records
- Report of liens
- County and city records

Notes

- Section corner reference ties
- Existing road as-built drawings
- Subdivision plats
- Recorded surveys
- Original government surveys
- Original road establishment records
- Permission to enter the properties
- Fixed date of completion

Output

- A layer produced in CADD, with all lines shown graphically
- An electronic file in ASCII or GPK form
- Certified Public Section Corner Certificates produced and recorded on all section corners to be used for the legal descriptions

Affected Parties: District Land Surveyors

2.2.20 Event No. 17: ALTS

Code and Definition: ALTS – Develop Alternatives

Action: Through the Corridor Development Section (for Type I and some Type II projects) or the Office of Design (for some Type II projects), refine alternatives identified in Event No. 3 – CNPT (Develop Project Concept). Use GEO-PAK road design software to define the alternatives in CADD.

Purpose

- To lay out project concepts electronically and transfer the data to the design phase using CADD.
- To improve the identification of project impacts.
- To respond to project impacts during the planning phase in order to reduce concept changes during the design phase.

Needs

- Corridor alignments
- DTM
- Results of environmental scoping meeting(s)
- Results of fieldwork or data collection work
- Results of preliminary soils work
- Results of public involvement during Event No. 3 – CNPT (Develop Project Concept).

Notes

Output	• Horizontal and vertical alignments • Typical cross section • Approximate construction need lines • Location of interchanges and intersections • Planning-level cost estimates • Identification of ROW impacts • Preliminary predetermined access (PDA) locations
Affected Parties	District Office, PMT, Corridor Development Section, Office of Design

2.2.21 Event No. 18: REG2

Code and Definition	REG2 – Perform Field Investigation for Regulated Substances
Action	Through the Office of Environmental Services, initiate invasive fieldwork at properties that are, or may be, contaminated by regulated substances and appear to be unavoidable. Using consultant services, collect and analyze environmental samples to establish what contaminants are present, and the extent and seriousness of the contamination. The fieldwork may progress through multiple iterations. In some cases, additional fieldwork will be conducted in coordination with the ROW layout.
Purpose	• To verify which properties are contaminated, by what contaminants, and the extent and seriousness of the contamination. • To share this information with the Corridor Development Section, Office of Design, Office of Right-of-Way, and District Office as the alternatives are finalized and preliminary design begins.
Needs	• Results of REG1 • Timely updates from the Corridor Development Section, Office of Design, and Office of Right-of-Way regarding the project alignment and needs.
Output	• Consultant reports documenting the field investigation results, submitted to the Office of Environmental Services • A summary letter (with or without reports), provided to Corridor Development Section, Office of Design, Office of Right-of-Way, and District Office

Notes

Affected Parties	Office of Environmental Services – Regulated Substance Section

2.2.22 Event No. 19: WTL2

Code and Definition	WTL2 – Prepare Section 404 Permit Application and Mitigation Design
Action	Provide written documentation and GIS maps for use in preparing the environmental document and Section 404 permit application.
Purpose	• To provide environmental document writers with the technical information related to potential wetland impacts within the alternative corridors. • To identify potential mitigation plans for the individual corridors based on the estimated impacts.
Needs	• Identification of corridors to carry forward in the environmental document as reasonable and prudent • Delineation and data from fieldwork for Event No. 13 – WTL1 (fieldwork for the Section 404 permit) • Information from environmental scoping meetings • Data from T&E investigations • Data from cultural/historic reviews and/or an MOA from SHPO • Design information, including borrow sites and designs
Output	• Identification, delineation, classification, quantification, and documentation of wetland, timbered areas, and flora and fauna impacts • Determination of potential mitigation sites and development of mitigation concept and plans • Written documentation with necessary supporting charts and maps for inclusion in the draft and final environmental documents • Completed Section 404 permit application
Affected Parties	Office of Environmental Services – Wetland Section

2.2.23 Event No. 20: UMTG

Code and Definition	UMTG – Hold Utility Coordination Meeting
Action	Conduct the coordination meetings between Iowa DOT staff and utility companies affected by the proposed project.

Notes

Purpose	• To establish a dialog with the utilities that will continue throughout the project. • To provide a forum for information exchange and problem resolution.
Needs	• For the first meeting: project concept, tentative alignment with alternatives, determination of affected utilities • During the subsequent development process: refined information, including letting dates
Output	An ongoing effort to address and resolve utility issues in a cooperative manner
Affected Parties	District Office, PMT, Support Services Bureau, Utility Section and utility coordinator

2.2.24 Event No. 21: RMTG

Code and Definition	RMTG – Hold Railroad Coordination Meeting
Action	Conduct coordination meetings between Iowa DOT staff and railroad companies affected by the proposed project.
Purpose	• To establish a dialog with the railroad(s) that will continue throughout the project. • To provide a forum for information exchange and problem resolution.
Needs	• For the first meeting: project concept, tentative alignment with alternatives, and determination of affected railroad(s). • During the subsequent development process: refined information, including letting dates.
Output	An ongoing effort to address and resolve railroad issues in a cooperative manner.
Affected Parties	District Office, PMT, Office of Rail Transportation – Modal Division

2.2.25 Event No. 22: RSRL

Code and Definition	RWRL – Prepare Relocation Plan
Action	• Assess the number of homes, farms, and businesses that would be displaced by the proposed alignment alternatives. Include an inventory of available properties in the area that could serve as suitable replacement properties for those displaced.

Notes

	• Compile financial information on property values and mortgage rates in the local market.
Purpose	• To provide information on impacts on the occupants of properties within the corridors of all alignments studied. • To estimate the relocation costs for each alignment alternative.
Needs	• Aerial photography of the project corridor showing the alignment alternatives with the approximate highway footprint for each • Corridor Property Ownership database
Output	A Relocation Plan for use in estimating the cost of various alignments and for listing in the environmental document.
Affected Parties	Office of Right-of-Way – Relocation Section

2.2.26 Event No. 23: CNVE

Code and Definition	CNVE – Conduct Concept Value Engineering Study
Action	Using a multidisciplinary team, systematically apply recognized techniques to identify the function of a product or service, establish a worth for that function, generate alternatives through creative thinking, and provide the needed functions at the lowest life-cycle costs without sacrificing safety, necessary quality, and environmental attributes of the project. Note: VE applies to all federal-aid highway projects in the National Highway System (NHS) with an estimated cost of $25 million or more. Iowa DOT is required to have procedures to identify candidate projects for VE studies early in the development stage.
Purpose	• To improve project quality, foster innovation, and eliminate unnecessary and costly design elements. • To compare the proposed alternatives to other VE alternatives and determine if there are other equal or better alternatives to accomplish the same function at a lower life-cycle cost. Note: A VE study may be conducted at any time, but this event is intended to allow studying the early decisions of corridor and alignment during the planning stage.
Needs	• Basic preliminary engineering data, with comparable quantity and cost data. • Other typical information, including aerial photos with project alternative alignments and corridors; significant

Notes

property owner information within the corridors; utilities or other items which could affect project locations and costs; environmentally sensitive areas, and wetlands and key concerns of Iowa DOT's local customers.

Output	Completed VE study for distribution to the Support Services Bureau, Value Engineering Coordinator, who is responsible for compiling and distributing to FHWA a VE Workbook Report on all VE studies. The report details the VE team's findings and recommendations.
Affected Parties	District engineer, PMT Note: The district engineer is responsible for determining the need for a VE study and ensuring that it is completed when required. (See Appendix 2, PMT Responsibility Checklist, for the PMT's role in completing a VE study.)

2.2.27 Event AN: PMTG

Code and Definition	PMTG – Hold Public Information Meeting (old P9 Event) Note: Public information meetings occur at several points during the development process to gather and disseminate information.
Action	As needed, conduct a meeting to present the anticipated project alternatives and associated impacts for public discussion.
Purpose	To receive comments to use, in conjunction with other factors, for continuing evaluation of alternatives and, ultimately, definition of a preferred alignment.
Needs	• Project concept assessment of impacts • Anticipated entrance locations • Aerial photo(s) or CADD layout showing alignment alternatives • Results of environmental investigations
Output	Increased public awareness and involvement in the project development process.
Affected Parties	District Office, PMT, Corridor Development Section, Office of Design

2.2.28 Event No. 24: PAL

Code and Definition	PAL – Determine Preliminary Access Locations
Action	Provide an approximate location of the access points for the alignments under consideration. Base access spacing and type on the selected level of access control and on guidelines established in the Iowa DOT Access Policy.

Notes

Note: This information will be part of the public hearing display.

Purpose

- To provide the public and the affected landowners with a preliminary indication of the location of their access to the highway.
- To provide the public with an opportunity to discuss any access concerns they have with District staff.

Needs

- Established level of access control
- Property owner information
- Approximate property line location
- Current access locations
- Proposed interchange locations and configurations
- Side road connections
- Preliminary location of structures

Output: The preliminary location of access points.

Affected Parties: Office of Traffic & Safety, Access Policy Administrator, PMT, Office of Design, Corridor Development Section

2.2.29 Event No. 25: PTSL

Code and Definition: PTSL – Develop Preliminary Type, Size, and Location (TS&L) Structure Information

Action: Prepare a preliminary estimate of the major structure needs, such as bridges and large culverts, for the proposed alignments. Include a recommendation for widening or replacing existing structures, or replacing them. Also include a preliminary cost estimate for the items identified.

Purpose

- To provide the Corridor Development Section with information needed to analyze alternatives.
- To support the public hearing process.
- To provide the Office of Environmental Services with the information needed for the environmental document, early indication of stream/river impacts, and areas of impact for wetland delineation.

Needs: Information regarding the proposed alignments, including interchange configuration, typical template top, terrain information, drainage areas, stream/river channel profiles.

Output: A preliminary estimate of the type, cost, and number of major structures for each of the alignment alternatives.

Notes

Affected Parties	PMT, Office of Bridges & Structures

2.2.30 Event No. 26: PCUL

Code and Definition	PCUL – Determine Preliminary Culvert Locations
Action	Prepare a preliminary estimate of the culvert locations and sizes based on existing available information from the Office of Design and/or Corridor Development Section. The information could also include a preliminary cost estimate for the items identified.
Purpose	To provide the Office of Design with the approximate culvert locations for plan development and presentation at the public hearing.
Needs	For complete TS&L information: • Cross section • Field survey details • Mainline and side road alignment and grade • Median crossovers • Proposed ditch grades • Interchange geometrics • Proposed sidewalks and bicycle paths • Soils and foundation boring data • Drainage areas
Output	Identification of culvert locations only. The level of detail and information available will determine the degree of completion for this event. The final type and size will usually not be identified at this time because of limited information. Event 37 – FTSL (Develop Final TS&L and Culvert Layout) will provide the final type and size.
Affected Parties	Office of Bridges & Structures – Preliminary Design Section

2.2.31 Event No. 27: FDTM

Code and Definition	FDTM – Develop Final DTM (old D1 Event)
Action	Refine the preliminary DTM to improve the accuracy of the model for use in design. To do this, obtain additional field survey and photographic details and merge them with the preliminary DTM. Those details include the location and identification of utilities, culvert and bridge information, pavement elevations at critical locations, drainage plats, and property owner plats.

Notes

Purpose	To provide the detailed survey information necessary to develop final earthwork quantities and design details.
Need	Limits of the field survey
Output	The final Microstation files, GEO-PAK alignment data, and field survey reports
Affected Parties	Office of Design – Photogrammetry, Preliminary Survey Section, District Land Surveyors, PMT, Corridor Development Section

2.2.32 Event No. 28: HEAR

Code and Definition	HEAR – Conduct Public Hearing Note: Can-Do requires one public hearing; however, the District Office may determine that the project warrants more hearings.
Action	Provide a public involvement activity that has a transcript of the proceedings.
Purpose	To collect public and agency comments on the project alternatives and the anticipated social, economic, and environmental impacts of the various alternatives to assist in selecting a preferred alternative.
Needs	• EA or EIS • Aerial photo(s) or CADD display showing all alternatives under consideration • 30-35 percent design completion
Output	Responses to the comments submitted at the hearing and a transcript of the meeting, prepared by staff. The transcript will be reviewed by staff and the Commission as part of the project approval process.
Affected Parties	District Office, Corridor Development Section, PMT, Office of Design, Office of Right-of-Way

2.2.33 Event No. 29: FEIS

Code and Definition	FEIS – Prepare Final Environmental Impact Statement
Action	Prepare an action-forcing device to ensure that the policies and goals defined in the Code of Federal Regulations (CFR) are met. Provide full and fair disclosure of significant environmental impacts. Inform decision makers and the public of the reasonable alternatives for avoiding or minimizing impacts in order to enhance the quality of the human environment.

Notes

Purpose	• To evaluate all reasonable alternatives considered and identify the preferred alternative. • To discuss substantive comments received on the draft EIS and to provide responses. • To summarize public involvement efforts. • To describe the mitigation measures to be incorporated into the proposed project • To document compliance with all applicable environmental laws and provide reasonable assurances that their requirements can be met. Note: The purpose of an EIS is to assess the environmental impacts of the proposed action, not to justify decisions already made.
Needs	• DEIS, with a purpose and need statement • Data from the public involvement process • The Commission's preferred alternative • Data from cultural studies, T&E studies, wetland delineations, environmental justice (EJ) studies • ROW needs and land use impacts • Identification of borrow sites
Output	An approved environmental document.
Affected Parties	Office of Environmental Services – Document Section or NEPA Section

2.2.34 Event No. 30: PJRV

Code and Definition	PJRV - Conduct Project Review
Action	Review project information. Note: The project review is not mandatory, but a project can come to Project Review at any time and as often as the District Office or PMT considers the review warranted.
Purpose	To brief the division management team about issues and concerns, seek management guidance, develop project strategies, and review the development schedule through discussions about public input, design developments, environmental findings, ROW input, bridge considerations, and traffic safety.
Needs	• Transcript of the public hearing (if applicable) • Graphics or displays of the project area and alternatives

Notes

- Summary of impacts of the various alternatives.

Output	Further definition of how to proceed with development or a recommended alignment for Commission approval.
Affected Parties	District Office, PMT, Corridor Development Section, Office of Design, Engineering Bureau Director

2.2.35 Event No. 31: PDES

Code and Definition	PDES – Prepare Design
Action	Through the Office of Design, continue to work on completing the preliminary design and move into the early phases of final design. This includes refining the alignment and grade for all viable alternatives.
Purpose	To develop a final set of plans for the contract documents.
Needs	• An approved alignment and concept • DTM and preliminary geotechnical information • Input from the PMT
Output	Plans with the final alignment and grade to the Office of Bridges & Structures for the design of drainage structures, and to Office of Right-of-Way for ROW layout.
Affected Parties	Office of Design

2.2.36 Event No. 32: CMAP

Code and Definition	CMAP – Obtain Commission Approval (old A4 Event)
Action	Select the alternative for further development.
Purpose	To allow management-level discussion about a proposed project, its pros and cons, and stakeholder input; completion of the environmental document if it is more than an EA; programming of project; and preparation of the final plan.
Needs	• Transcript of the public hearing • Staff recommendation • Graphics or displays of project alternatives • A summary of alternatives
Output	Determination of the alignment selected for further development.
Affected Parties	District Office, Corridor Development Section, Office of Design

Notes

2.2.37 Event No. 33: FONS

Code and Definition	FONS – Prepare Finding of No Significant Impact (FONSI) (old A3 Event)
Action	If no significant impacts are identified in the EA process, write a cover document recommending a FONSI. Attach it to a copy of the EA, along with any public involvement information, copies of any comments received and responses to the comments. Prepare the FONSI after an EA has been reviewed by the resource agencies and the public for the prescribed period of time and after a public meeting/hearing, or offer for a hearing.
Purpose	• To document to reviewing agencies and the public that the project will not result in significant environmental impacts. • To provide the basis for FHWA to grant of location approval for the project.
Needs	• A properly processed EA • Results of Iowa DOT and FHWA staff discussions concerning the anticipated project impacts • Any correspondence about the project
Output	A FONSI signed by FHWA granting location approval for the project
Affected Parties	Office of Environmental Services – Document Section

2.2.38 Event No. ALT 33: PROD

Code and Definition	PROD – Prepare Record of Decision (ROD)
Action	Prepare the ROD (a brief, concise document written to the specifications of NEPA and FHWA) only for projects for which an FEIS has been completed. Document decisions made regarding the project, including any Section 4(f) determinations; identify the environmentally preferred alternative; discuss the basis for decisions and mitigation measures planned; and present responses to any comments received on the Final EIS. Provide the ROD to the same parties who received the FEIS. Note: FHWA may give no further project development approvals until the ROD has been approved.
Purpose	• To tie together, for all interested parties, the final disposition of environmental decisions and issues. • To provide additional information regarding mitigation plans or Section 4(f) decisions.

Notes

	• To respond to any comments received on the FEIS.
Needs	• Approved FEIS • Passage of at least 30 days after the notice was published in the *Federal Register (FR)* concerning FEIS availability • Passage of at least 90 days since the notice was published in the *FR* concerning DEIS availability • All relevant information developed concerning decisions, mitigation plans, project revisions, project commitments, etc.
Output	A ROD signed by FHWA, ready for publication in the *FR*, and granting location approval for the project.
Affected Parties	Office of Environmental Services – Document Section or NEPA Section

2.2.39 Event No. 34: DVEN

Code and Definition	DVEN – Perform Design Value Engineering
Action	Using a multidisciplinary team, systematically apply recognized techniques to identify the function of a product or service, establish a worth of that function, generate alternatives through the use of creative thinking, and provide the needed functions at the lowest life-cycle costs without sacrificing safety, necessary quality, and environmental attributes of the project. Note: VE applies to all federal-aid highway projects in the NHS with an estimated cost of $25 million or more. A VE study may be conducted at either the preliminary or design stage of project development, or both.
Purpose	To improve project quality, foster innovation, eliminate unnecessary and costly design elements to determine whether there are other equal or better alternatives to accomplish the same function at a lower life-cycle cost. Note: The purpose is not to reopen or reconsider the location selection or environmental commitments already made or about to be made.
Needs (typical)	• Aerial photos • Design CADD files • Bridge TS&L determinations • Property owner information • Utilities, railroads, and other facilities within the project corridor that could affect project costs

Notes

- Wetlands and other environmentally sensitive areas
- Key concerns of local Iowa DOT customers
- List of commitments (to be obtained by the PMT and/or VE coordinator from the Office of Environmental Services)

Output: A design VE study, which is to be distributed to the Support Services Bureau. The VE coordinator is responsible for compiling and distributing a VE Workbook Report on all VE studies to FHWA. The report details the VE team's findings and recommendations.

Affected Parties: District engineer, PMT

Note: The district engineer is responsible for determining the need for a VE study, and ensuring that it is completed when required. This can be accomplished in several different methods as described in the PMT Checklist, Appendix 2.

2.2.40 Event No. 35: DFEX

Code and Definition: DFEX – Conduct Design Field Exam (old D2 Event)

Action: Using a multidisciplinary team, conduct an on-site review of the preliminary plans. The team is primarily composed of staff from the District Office – Design Section, Office of Design, consultant design team (if involved), PMT, Office of Maintenance, and local officials where appropriate. The preliminary plans reviewed by this team approximately 35 percent complete and include such features as vertical and horizontal alignment, preliminary TS&L of structures, preliminary access locations, and interchange configuration.

Purpose: To determine how well the plans meet the field conditions and the objectives of the project.

Needs (to prepare the plans used for the field exam): Densified DTM

- Proposed alignment(s) from the Corridor Development Section
- Design concept
- Level of access control, and proposed interchange configurations
- As-built drawings
- Pavement history and accident history for intersections/interchanges
- Preliminary wetland delineations
- Preliminary TS&L of drainage structures and bridges
- Preliminary findings of the EA and archeological review

Notes

Output	An accepted set of marked-up preliminary plans that serve as the basis for the completed design.
Affected Parties	Office of Design

2.2.41 Event No. 36: GEO2

Code and Definition	GEO2 – Perform Geotechnical Fieldwork (old S2 Event)
Action	Identify all soils-related items affecting ROW and/or requiring additional ROW. This typically includes final borrow site selections as well as stability berms, backslope benches, and other stability features. Note: Final designs are not submitted at this time.
Purpose	To allow the acquisition of ROW to begin on a timely basis.
Needs	• Plan/profile sheets updated after the field exam to include all changes (except minor details) and considered final with respect to alignment and grade • Project cross sections • Final borrow need and distribution • Location of all bridges, culverts, etc. • Drilling information (GEO2 requires that most drilling be performed, which may require several months. This information is needed as soon as possible after the field exam, all necessary approvals, and selection of the final alternative.)
Output	Documentation (a letter with attached plan sheets, aerial photos, etc.) defining additional ROW areas to acquire for soils design purposes (including final borrow sites, stability berms, etc). Discussion is included as necessary and appropriate. Note: The GEO2 submittal is in essence a part of the Event No. 42 – PLRW (Preliminary Plans to ROW) submittal.
Affected Parties	Office of Design – Soils Design Section

2.2.42 Event No. 37: FTSL

Code and Definition	FTSL – Develop Final TS&L and Culvert Layout (old B1 Event)
Action	Determine the structure needs for the project, which includes establishing the TS&L for bridges and box culverts as well as the layout of drainage pipes.
Purpose	• To provide the Office of Bridges & Structures, Final Design Section with a completed bridge and culvert TS&L so that final design can begin.

Notes

- To provide the Office of Design with final pipe culvert layout for incorporation into the final design.

Needs

- Typical cross section or actual cross sections
- Field survey details
- Drainage areas
- A stable plan and profiles, including mainline and side road, geometrics, median crossovers, proposed ditch grades, interchange geometrics, proposed sidewalks and bicycle paths, soil problem areas, and stability berms that will affect structure lengths

Output: CADD reference file and Situation Plan for Design and GEO-PAK information.

Affected Parties: Office of Bridges & Structures – Preliminary Design Section

2.2.43 Event No. 38: RWEV

Code and Definition: RWEV – Acquire ROW for Environmental Work

Action: Early in the project development process:

- Acquire ROW or negotiate for right of entry to wetland mitigation sites and clean-up of sites contaminated by regulated substances
- Acquire documentation of historic structures
- Secure ownership of recovered artifacts

Note: Phase III archaeology is intrusive, detailed site mapping and recovery of artifacts (see Event No. 49 – P3HA, Conduct Phase III Historic/Archaeological Mitigation). The action is necessitated when an architectural/historic site must be documented and structures demolished or when an archaeological site must be excavated, documented, and artifacts recovered.

Federal law (36 CFR 60 and 800) mandates that any artifacts be recovered and turned over to a recognized curator for study and preservation. Therefore, Iowa DOT must own the site or have the owner's written permission to conduct a Phase III recovery action and take ownership of the artifacts.

Purpose: To acquire the necessary ROW, including temporary easements and access rights, to complete the requirements of the environmental process.

Needs: To purchase:

- Appraisal indicating the estimated value of the property(s) to be acquired

Notes

- Summary sheet defining the ROW need
- Plot plan showing the acquisition area
- Current report of liens
- ROW design plan
- Design plans showing cross sections

To acquire easement: A summary sheet and request memo from Office of Environmental Services defining the right of way needs.

Output	Acquisition of right of entry for environmental analysis purposes.
Affected Parties	Office of Right-of-Way, Office of Environmental Services, Office of Design, District Office

2.2.44 Event No. 39: WTLP

Code and Definition	WTLP – Receive Approved Section 404 Permit
Action	Receive Section 404 permit
Purpose	To provide a milestone event marking the receipt of the approved Section 404 permit by Iowa DOT.
Need	Submittal of the Section 404 permit application to the regulatory agency for approval. Note: The Corps of Engineers (Corps) has a goal to process permit applications within 120 working days of receipt, provided the permit is complete as submitted and the Corps or Iowa Department of Natural Resources (IDNR) do not receive adverse comments during their individual public comment periods.
Output	Approved Section 404 Permit
Affected Parties	Office of Environmental Services – Wetlands Section

2.2.45 Event No. 40: PLBG

Code and Definition	PLBG – Submit Plans to the Office of Bridges & Structures (old D3 Event)
Action	Submit a preliminary set of plans to the Office of Bridges & Structures, with adequate design information for the office to complete its TS&L analysis of the structures.
Purpose	To provide the Preliminary Bridge Section of the Office of Bridges & Structures with the design information needed to complete its hydraulic review and its assessment of the TS&L of the culverts, bridges, and other drainage structures required for the project.
Needs	• Updated plans that result from the field exam

Notes

- CADD files
- Alignment and grade
- Preliminary ditch design
- Soils and foundation data

Output: The updated plans resulting from changes to the field exam.

Affected Parties: Office of Design

2.2.46 Event No. 41: FPDA

Code and Definition: FPDA – Determine Final Access Locations

Action: Determine the final location of the access points for the adjacent property owners along the selected alignment.

Purpose: To ensure that the access point locations are in accordance with the safety and spacing requirements outlined for the level of access control established for the project.

Needs:

- Level of access control
- Information from the public involvement process
- Selection of the final alignment
- Property owner information (report of liens)
- Property lines, existing ROW lines, and need lines
- Design profile grades (vertical and horizontal alignment)
- Interchange layout
- Side road connections
- Locations of drainage structures, including bridges and culverts
- Project review comments that could affect the location of the access points

Output: Location of the access locations

Affected Parties: District Office, Office of Traffic & Safety, Access Policy Administrator, PMT, Office of Design

2.2.47 Event No. 42: PLRW

Code and Definition: PLRW – Submit Plans to the Office of Right-of-Way (old D5 Event)

Action: Submit design plans to the Office of Right-of-Way. To facilitate concurrent development, start this event with a preliminary submittal to the Office of Right-of-Way's ROW Design Section to enable the ROW design task to begin.

Notes

Purpose	To provide the Office of Right-of-Way with the design information necessary to complete the ROW layout process.
Needs	Design plans that include: • Interchange configuration • Access locations • Horizontal and vertical alignment • Cross sections • Final ditch design • TS&L of bridges and culverts • Borrow site size and location • Determination of the need for stability berms and benches • Any other design information that would influence the amount of ROW needed to construct and maintain the project
Output	A set of design plans showing the final need lines and delineating the project footprint, which defines the ROW limits for the project.
Affected Parties	Office of Design, PMT, District Office

2.2.48 Event No. 43: RWDS

Code and Definition	RWDS – Perform ROW Design and Layout (old R1 Event)
Action	Determine the proposed ROW needs, both permanent and temporary. Identify property ownerships. Complete the ROW plan.
Purpose	To provide the proposed ROW requirements for all affected properties for use by the District Office, Office of Design, and Office of Right-of-Way.
Needs	• Final design plans • Wetland mitigation sites • Cross sections
Output	A complete ROW Plan, with a parcel checklist showing owners' names and areas of proposed acquisition.
Affected Parties	Office of Right-of-Way – ROW Design Section

2.2.49 Event No. 44: RWPS

Code and Definition	RWPS – Complete Plot Plans and Summary Sheets
Action	Complete ROW design, plot plans, and Summary of

Notes

	Proposed Acquisition sheets. Provide ROW information for use by the District land surveyor. Complete the appraisal and acquisition process.
Purpose	To provide ROW information to the District land surveyor and Office of Right-of-Way, Appraisal and Acquisition Sections so that they can complete their functions.
Needs	• Final design plans • Report of liens
Output	Final ROW Plan and negotiator file for all parcels.
Affected Parties	Office of Right-of-Way – ROW Design Section

2.2.50 Event No. 45: TCS2

Code and Definition	TCS2 – Complete Certified ROW Plats and Legal Descriptions (old T2 Event)
Action	Complete all parcels requiring land acquisition plats and legal descriptions.
Purpose	To define the land parcels to be acquired by legally prescribed means dictated in the Iowa Code.
Needs	• Final design for each parcel of land • Complete set of final road plans • TCS1 information and a fixed date for completion (see Event No. 16 – TSC1, Conduct Land Surveys).
Output	A legally certified land acquisition plat and legal description that meet the full requirements of the Iowa Code.
Affected Parties	District Land Surveyors, Office of Right-of-Way

2.2.51 Event No. 46: REG3

Code and Definition	REG3 – Conduct Final Regulated Substances Review (old F3 Event)
Action	Through the Office of Environmental Services, review the final ROW plans and investigation work from REG1 and REG2 (see Event No. 12 – REG1, Perform Initial Regulated Substance Review; and Event No. 18 – REG2, Perform Field Investigation for Regulated Substances) to determine: • that project needs are within the original study area, and • that existing data suffice to advise the Office of Right-of-Way on acquisition strategies that limit Iowa DOT's liability for clean-up costs. In some cases where contaminated properties cannot be avoided, conduct additional fieldwork subsequent to the

Notes

	REG3 event to comply with requirements of the environmental regulatory agencies. Coordinate these activities with the Offices of Design, Right-of-Way, Construction, and the District Office as necessary.
Purpose	To mark the dissemination of the final fieldwork report(s) describing the results of the regulated substances. investigation. To make recommendations concerning the avoidance of contaminated properties based on the report(s).
Needs	Timely descriptions of project needs from the Corridor Development Section, (responsible for developing the alternatives), Office of Design (responsible for the preliminary design), and Office of Right-of-Way (responsible for the ROW layout).
Output	Memos or consultant reports, or both, distributed by the Office of Environmental Services, to describe the results of the invasive property assessments and to make recommendations to the Acquisition Section of the Office of Right-of-Way with regard to easement, fee titles, or specific contract conditions based on the assessments.
Affected Parties	Office of Environmental Services – Regulated Materials Section

2.2.52 Event No. 47: RWFE

Code and Definition	RWFE – Perform Right-of-Way Field Exam
Action	Conduct an ROW field examination. Include representatives from the District Office, Office of Design, and Office of Right-of-Way Appraisal, Acquisition, Relocation, Property Management, and ROW Design Sections. Also include representatives from local jurisdictions and planning organizations as appropriate.
Purpose	• To provide an on-site review of the proposed design. • To determine total and partial takes to minimize adverse impacts on affected properties while ensuring that all construction and maintenance needs are covered by the proposed ROW.
Needs	• Proposed alignment from the Office of Design • Design concept • Preliminary wetland delineations • Preliminary TS&L of drainage structures and bridges • Preliminary findings of the EA and archeological review • Level of access control • Proposed interchange configurations

Notes

Output	• A set of plans identifying the ROW take lines, temporary easement needs, property owners, and parcel numbers • Final public information meeting plan, with exhibits and cross sections
Affected Parties	Office of Right-of-Way

2.2.53 Event No. 48: CPKG

Code and Definition	CPKG – Recommend Contract Packaging
Action	Determine the project size for the most attractive and biddable contracts, while maintaining project goals including completing the corridor improvement within a specified time frame. Note: To increase competition among bidders, the Office of Contracts has established guidelines that outline the best time of year to let various types of work and the optimum size of projects to attract potential bidders.
Purpose	• To encourage competition among bidders. • To provide an opportunity to assess the need for innovative contracting methods such as incentive/ disincentive, bonuses, lane rental, contract periods, late start date, and other options that would become part of the contract.
Needs	• Review of the staging and construction requirements to determine when the various components should be let (for example, whether to let the culverts first or the bridges after the grading) • Consideration of innovative contracting methods, including incentive/disincentive, lane rental, bonuses, and other alternatives that may be beneficial for the project • Quantities for the major work types • Borrow needs and site location(s) • Structure needs • Proposed staging • Preliminary plans that include ROW needs • Access locations
Output	Recommendations for: • Dividing corridor improvement projects by the major work type into projects for letting • Grouping the projects for letting

Notes

- Determining the order for letting

Affected Parties: Office of Contracts, Office of Design, PMT, District Office

2.2.54 Event No. 49: P3HA

Code and Definition: P3HA – Conduct Phase III Historic/Archaeological Mitigation

Action: Use accepted mitigation measures compensate for the unavoidable loss of significant cultural resource properties to a highway project:

- Documentation: Record a historic structure or other property using archival photographic techniques, historic research, and written narrative to document the essence of the property and its reasons for possessing historic significance.
- Data recovery: Excavate to recover a "substantial amount" of information from an archeological site based on a data recovery plan previously approved by the Iowa SHPO archeologist.

Purpose:

- Historic-Architectural Mitigation: To record, document, and often recover significant parts of structures. These mitigation measures are required when a historically or architecturally significant structure is approved for removal for a highway project. Some standard/acceptable best management practices apply for some types of work. FHWA requires that the Iowa SHPO historian's signature on the fieldwork portion of the mitigation before the project is authorized for construction letting.
- Archaeological Mitigation: To recover data from and provide documentation of archaeological sites. FHWA regulations require federal highway funding recipients to carry out these mitigation measures. FHWA requires the Iowa SHPO archaeologist's signature on the fieldwork portion of the mitigation before the project is authorized for construction letting.

Note: In both cases, Iowa DOT will have rigorously explored all possible alternatives to avoid the resources, or at least to minimize impacts if avoidance is not possible. Section 4(f) documentation will have been completed for all historic/architectural impacts of these alternatives or, at a minimum, of the preferred alignment.

Notes

Needs	Historically-Architecturally Significant Properties: • MOA (see Event No. 11D – P1&2, Sign MOA) • Iowa DOT ownership of the parcel(s) containing the site(s) • Involvement of the Advisory Council on Historic Preservation as a reviewing party to the MOA (in rare cases) • Documentation from the National Park Service Archaeology: • SHPO-approved MOA (see Event No. 11D – P1&2, Sign MOA) • Data Recovery Plan (DRP) • Iowa DOT ownership of parcel(s) containing the site(s) • Tribal concurrence, if the need is triggered by an MOA and DRP (see Event No. 11C – P1&2, Notify Tribes)
Output	A SHPO letter of acceptance of the documentation of historic/architectural properties or of the final report for data recovery Note: In some cases, this may not occur until after the highway project has been constructed and opened to traffic. In this event, SHPO would have signed off twice: (1) when fieldwork was completed (photography and measurements for as-built drawings for structural documentation or excavations for archeological data recovery), and (2) upon approval of the final deliverables. For production schedule purposes, SHPO concurrence on completed fieldwork constitutes completion of the event.
Affected Parties	Office of Environmental Services – Cultural Section, FHWA

2.2.55 Event No. 50: FDES

Code and Definition	FDES – Develop Final Road Design
Action	Develop the final plan and profile, tabulate final quantities, and develop any project-specific specifications. To ensure a complete plan, coordinate the plan development with the Office of Design and Offices of Bridges & Structures, Right-of-Way, Traffic Engineering, Environmental Services, District Office, and PMT.
Purpose	To complete a biddable, buildable plan for the project.
Needs	• Completed preliminary plans • Information from the Office of Bridges & Structures on drainage structures

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- ROW layout
- Geotechnical design.

Output: Plans submitted to the Office of Contracts

Affected Parties: Office of Design – Design Section

2.2.56 Event No. AN: PMTG

Code and Definition: PMTG – Hold Public Information Meeting (old P9 Event)

Note: Public information meetings occur at several points during the development process to gather and disseminate information.

Action: Hold a meeting to provide design and ROW details.

Purpose: To show the impacts of the selected alternative and the access for each parcel within the project corridor.

Needs:

- Commission's approval of the selected alternative
- Anticipated ROW takings
- Final PDA locations.

Output: Increased public awareness and involvement in the project development process.

Affected Parties: District Office, PMT, Corridor Development Section, Office of Design

2.2.57 Event No. 51: RWAP

Code and Definition: RWAP – Conduct Right-of-Way Appraisal (old R2 Event)

Action: Provide an estimate of just compensation, as defined by the Iowa Code, for that portion of property being acquired. Include damage items to be caused by the acquisition.

Purpose: To provide a value basis for negotiation and/or a before-and-after value for the condemnation process.

Needs:

- A parcel file generated by the Office of Right-of-Way, ROW Design Section that includes:
- Report of lien, identifying the owners of record and containing the legal description
- Summary sheet identifying the needed acquisition
- Plot plan showing the acquisition in relation to the whole property
- Survey plat (desirable at this point)

Output: Written estimates of just compensation for the negotiator to use in the acquisition process.

Notes

Affected Parties	Office of Right of Way – Appraisal Section

2.2.58 Event No. 52: RWAC

Code and Definition	RWAC – Perform Right-of-Way Negotiation (old R3 Event)
Action	Negotiate an acquisition contract that is acceptable to both Iowa DOT and the landowner.
Purpose	To acquire the necessary land, temporary easement access rights, or other rights necessary for the construction and maintenance of transportation facilities.
Needs	• Appraisal of the real estate value • Summary sheet defining the needs • Plot plan showing the acquisition in relation to the whole property • Survey plat and description of the acquisition area • Current report of liens • Office of Right-of-Way, ROW Design Section plan and cross sections
Output	An acquisition contract acquiring the property and/or rights needed for the construction of the project.
Affected Parties	Office of Right-of-Way – Negotiation Section

2.2.59 Event No. 53: RWOC

Code and Definition	RWOC – Complete ROW Relocations (old R5 Event)
Action	Assist the owner, tenant, or business in finding alternative housing or business location.
Purpose	• To provide decent, safe, and sanitary housing for displaced residential residents. • To assist in the reestablishment of business operations.
Needs	• Identification of owner/tenant-occupied residency or business that will be affected by the acquisition (needed to do a relocation study) • Signed acquisition contract (needed after the study and prior to paying relocation benefits) • Appraisal (needed to determine owner-occupied residential relocation benefits)
Output	A vacated property with the owner/tenant or business relocated to other housing or facilities. The property is clear for demolition or removal of structures.

Notes

Affected Parties	Office of Right-of-Way – Relocation Section

2.2.60 Event No. 54: FBRG

Code and Definition	FBRG – Perform Final Bridge Design (old B3 Event)
Action	Perform a detailed analysis of the design elements of each structure. Include foundation design (pile or spread footing), pier design, and the development of a complete set of plans that includes a tabulation of bid items and quantities, as well as a complete cost estimate.
Purpose	To develop a set of plans containing all the design details, tabulated quantities, and specifications to allow the Office of Contracts to begin the bid-letting process.
Needs	• Completed structure TS&L • Final soils analysis and recommendations • DNR flood plain permit • Completed horizontal and vertical geometrics
Output	Final structural plans
Affected Parties	Office of Bridges & Structures – Detail Bridge Design Section

2.2.61 Event No. 55: RWTC

Code and Definition	RWTC – Complete Right-of-Way Title Transfers and Closing
Action	Provide and secure signed transfer documents from landowners.
Purpose	To ensure that all property rights have been acquired, proper documents are signed and recorded, and the landowners are paid.
Needs	• Current report of liens or current abstract • Properly executed acquisition contracts • Survey plats and descriptions
Output	Clear title to the acquired property or property rights
Affected Parties	Office of Right-of-Way – Title & Closing Section

2.2.62 Event No. 56: GEO3

Code and Definition	GEO3 – Perform Final Geotechnical Design (old S3 Event)
Action	Complete and submit all soils design work, including soils (Q) sheets, soil profile and supplemental for bridges, all soils information on final cross sections, treatment tab,

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	longitudinal subdrain tab, shrinkage tab, incorporation of all stability items (benches, berms, blankets, drains, etc.) on Q sheets and cross sections, final borrow design (including soil profiles for borrows and borrow cross sections), any other required tabs, etc. Note: Project changes made at this time may result in delayed completion of this event.
Purpose	• To provide all soils design requirements to the design section responsible for the project. • To provide all soils design sheets, tabs, etc. that go in the contract documents. • To provide a part of the overall design or bridge plan submittal.
Needs	• Final plan and profile sheets • Final cross sections • Detailed borrow needs from each borrow site • Any staging/packaging requirements • Any project breaks or similar items • Special mitigation needs • All related final project information Note: This information is needed at the same time that final plan development begins (see Event No. 50 – FDES, Develop Final Road Design) based on the assumption that no grade or alignment changes occur during that event.
Output	• Final set of geotechnical plans, provided to the Office of Bridges & Structures (for bridge projects) and to the Office of Design (for road projects) for incorporation into the final set of project plans • Any special plan notes, special specification language, and bid tabs for this work
Affected Parties	Office of Design – Soils Design Section

2.2.63 Event No. 57: RWCN

Code and Definition	RWCN – Complete Right-of-Way Condemnation (old R-4 Event)
Action	Acquire all property and property rights through the process of eminent domain when friendly acquisition contracts are not possible.
Purpose	To provide clear title through the eminent domain process and provide a method for the landowner to receive just

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compensation under the Code of Iowa.

Need	• Current report of liens • Survey plat and description for permanent and temporary acquisition • Design plans • ROW notice to landowners • Staking by the resident construction engineer's (RCE's) office
Output	Legal transfer of the title from the landowner to the State via the eminent domain process
Affected Parties	Office of Right-of-Way – Acquisition Section

2.2.64 Event No. 58: FPLN

Code and Definition	FPLN – Submit Final Plans
Action	Submit a completed set of design and/or bridge plans to the Office of Contracts to begin the letting process.
Purpose	To mark the milestone for completion and submittal of the plans for the letting process.
Needs	A complete set of plans that: • Includes all bid items and quantities • Outlines the required specifications and special provisions
Output	A final set of plans submitted to the Office of Contracts to enable the Proposal and Estimating Section to prepare the contract documents for letting.
Affected Parties	Office of Contracts – Proposal and Estimating Section

2.2.65 Event No.59: LETT

Code and Definition	LETT – Let the Project (old L1, L2, etc. Event)
Action	Prepare the project for bidding, conduct the bidding, and award the contracts: • Review the project plans. To meet the intent of the plans, to ensure that the plans and specifications clearly outline the project requirements and scope of work. • Prepare cost estimates, bidding documents, and proposals. • Print the proposals and plans. • Distribute the bidding documents to prospective bidders.

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	• Request FHWA approval. • Advertise and conduct the letting. • Analyzing all bids to determine whether the bidders can perform the work and to ensure that the project is awarded to the actual low bidder. • Award contracts.
Purpose	To establish contracts with the industry to perform the work outlined in the project plans.
Need	A complete set of plans that: • Includes all bid items and quantities • Outlines the required specifications and special provisions
Output	A set of plans ready for bidding, including all bidding documents, and approvals.
Affected Parties	Office of Contracts

CHAPTER 3

Guidance for PMTs

Notes

CHAPTER 3
GUIDANCE FOR PMTS

The Can-Do Implementation Team completed a series of listening sessions in the spring of 1999 in order to:

- Determine to what extent the new Can-Do process was being integrated into project development.
- Obtain a better understanding of how PMTs were functioning.
- Determine whether the Implementation Team needed to

The listening sessions were held on March 9, 1999, with Iowa DOT district engineers; on March 17, 1999, with district planners and representatives of the Corridor Development Section; and on April 5, 1999, with the Office of Design. The listening sessions generated an honest and forthright discussion, reported below by topic.

In addition, this chapter outlines the guiding principles for the PMTs and explains what PMTs are NOT intended to do.

3.1 IMPLEMENTATION PROGRESS

At the beginning of January 1999, the Can-Do process became functional for all new projects that require preparation of an environmental document. Projects already in the development process (referred to as "pipeline projects") can take advantage of the enhancements available using the Can-Do process.

3.2 PMT'S ROLE AND AUTHORITY

In the listening sessions, some confusion was expressed as to the authority and/or role of both the PMT as an aggregate and the individual members assigned to a team. The root issue appeared to be more a lack of confidence brought about by the newness of the process and lack of real experience than negativism. In fact, most individuals who expressed such comments at the sessions stated that they believed the PMT concept would significantly enhance the development process, improve internal and external communication, and produce a better quality final product.

The Implementation Team responded to these comments by stating that the PMT concept centers on bringing together key individuals from the major disciplines involved in developing a project. This nucleus of individuals is to remain on the project from project concept development (Event No. 3 – CNPT) in the Corridor Development Section through project letting (Event No. 59 – LETT), and longer if major plan revisions are needed during the construction phase. PMT members are responsible for working together without bias to deliver a project on time and within the programmed budget.

Notes

See Appendix B for the PMT Responsibility Checklist, which outlines the general responsibilities of a PMT and a PMT Meeting Agenda Checklist, and the PMT Meeting Agenda Checklist, which lists key development issues to be tracked by each PMT.

3.2.1 Roles

3.2.1.1 Individual PMT Members

All members bring different key elements to the team by virtue of their individual experience and responsibilities within Iowa DOT. Therefore, they must all:

- Review the proposed project
- Provide insight and expertise at each step of the process to ensure that their concerns have been considered and adequately addressed throughout the development process, including but not limited to selection of the preferred alignment
- Work together with other members to identify potential problems early and to develop solutions through consensus

3.2.1.2 Support Functions

PMTs should recognize and identify appropriate times to involve support functions, defined as those groups or individuals who do not have direct membership on the PMT but whose work product is necessary to make informed decisions, or to provide necessary project clearances and/or construction permits. Examples are the Office of Design, Photogrammetry/Preliminary Survey Section; Specifications; Office of Design, Soils Design Section; Office of Contracts; Office of Bridges & Structures; Office of Maintenance, District Field Services.

Generally, support functions are represented by a PMT member, who is responsible for ensuring that:

- The support functions are involved in the development process in a timely manner
- The support functions are provided with all pertinent facts needed to complete their work
- The work product and deliverables are incorporated into the project's design

Sometimes, it may be more efficient to add a support function to the PMT during its mission-critical phase of the work. That decision is the PMT's and should be evaluated on a case-by-case basis by asking, "What is reasonable and most efficient?"

3.2.1.3 Supervisors

All PMT members have supervisors and must involve them by:

- Keeping their supervisor informed of progress on the project.
- Identifying potential problems early in the process.
- In their specific area of responsibility, alerting the office supervisor to issues that could cause subsequent problems.

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- Participating in the solution of problems identified at the office and PMT levels.
- At a very early stage, establishing a development schedule for the project and managing the project's development to that schedule.

For example, if a project is in the develop alternatives phase (Event No. 17 – ALTS) and one alternative under consideration has a constraint that would require a design exception, the design project engineer should bring it to the PMT's attention and seek resolution. If another alternative is not readily available (via the prudent and feasible test), the design project engineer should take the issue to the design engineer and ask whether a design exception would be appropriate.

One constant issue is the availability of resources. Each PMT member who is representing resources (both directly and indirectly, in the case of support functions) must request these resources from the appropriate supervisor and be sure that the resources are available. If there is a problem, the PMT member is responsible for working out an acceptable solution (with the supervisor or others) before committing to the proposed development schedule.

3.2.1.4 Follow-up

Each member is obligated to bring the answers back to the PMT for discussion and further resolution at the team level

3.2.2 Authority

The authority vested in the PMT (both as an aggregate and as individual members) is difficult to quantify and almost impossible to mandate. The following discusses the authority of the PMT on the macro, micro, and individual member level.

3.2.2.1 Macro Level

Iowa DOT Management's acceptance of the Can-Do process and PMT leadership has laid the foundation for the PMT's authority. The formal basis of that authority is the concept of collaboration on a project and collective development of that project using the input from all affected offices. The PMT is charged with managing the project through all phases of the development process

The *de facto* authority will come when individual members collectively make decisions based on sound data, while keeping their supervisors informed and involved as the project proceeds. An open process, using collaborative consensus-building and making decisions only after considering all available, relevant data (both internal and external), will ultimately secure authority for the PMT.

Furthermore, the PMT itself sets the stage for success or failure in how it chooses to obtain buy-in from Management. The Implementation Team does not recommend or suggest continuous involvement with project review (Event No. 30 – PJRV). Rather, flexibility is built into the process: it is the PMT's responsibility to recognize sensitive projects and possibly spend extra time acquiring feedback from Management.

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If the PMT is effective at consensus building and presents Management with a project that has no surprises, it is unlikely that Management will overturn a PMT's recommendation. However, Management always retains the prerogative to make any changes it deems necessary. In that case, the PMT is responsible for delineating the impacts (especially development time and project cost) that would result from any Management-directed changes so that Management will be aware of, and responsible for, the implications of its decision.

3.2.2.2 *Micro Level*

Authority to accomplish the mission of developing a project on time and within the programmed budget resides solely in the PMT, except where Management decides to make a change to the PMT's recommendation. In that case, Management is charged with justifying changes to the development schedule time and/or the programmed budget for the project. In all other cases, the key elements are within the PMT's range of control.

Project Development Schedule. In listening sessions, the Implementation Team heard concerns about being able to deliver a project on time. Cases were presented to show how time expectations were not reasonable, *"other"* influences can affect a schedule, and *"the PMT does not have authority to direct resources."*

In reality, however, the project development schedule is solely a function of the PMT. That is, the PMT develops, monitors, and recommends schedule changes to the district engineer and Engineering Bureau director. If there is buy-in and resource commitment to the initial schedule, no identifiable resource allocation problems should exist. If the PMT is functioning as intended, early identification of problems is an essential function and should give the PMT an opportunity to manage through potential hurdles. If all that fails, the PMT has the authority to modify the development schedule, with justification, of course. It cannot be overemphasized that a valid schedule at the outset and early identification of problems should greatly minimize problems, if not completely eliminate them in some cases.

Costs. Development costs (internal and outsourced services) and overruns of programmed project costs were a reoccurring theme during listening sessions. There are two types of project development costs:

- Internal Development Costs: The Can-Do process is built on extra front-loaded development costs. This is a cost of doing business in the Can-Do environment, and the concept has been accepted by Management.
- Programmed Project Costs: Overruns of programmed costs typically occur because (1) conceptual changes occur after a project is programmed; (2) previously unidentified major problems (show stoppers) are found late in development; or (3) incremental design changes occurred as the project was being developed. Overruns of estimated project costs should be almost nonexistent if the Can-Do process is functioning properly.

Here again, the PMT has total control. There is little reason to make significant changes after Commission approval if the PMT functions as intended early in the development process.

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Specifically, the PMT is responsible for developing multidisciplinary consensus on the preferred alignment. When this happens, subsequent changes in concept and incremental changes should be minimal.

Also, the PMT prepares an engineering estimate at about the time of programming. If the PMT provides a reasonable estimate to the Office of Program Management, nearly all that is left is to complete predesign and final design. The opportunity for incremental ratcheting-up of major costs at this point should then be almost nonexistent, and the number of small item cost changes should be able to be covered in the project's contingency factor.

3.2.2.3 Individual Members

Individual PMT members' authority is somewhat more difficult to quantify, mainly because it has two basic components: (1) authority delegated from supervisors, and (2) authority conveyed from within the PMT.

Neither can be mandated; both must be assumed by the individual. The following is noteworthy with regard to team members' authority:

- The degree of authority a team member has from the supervisor affects the Can-Do process in so far as the number and level of issues that need to go back to the supervisor for resolution. Unfortunately, a situation requiring excessive involvement of the supervisor can affect timely decisions. If this situation creates a noticeable impediment, the Implementation Team would appreciate feedback for further evaluation.

  "Authority is 20 percent given and 80 percent taken."[8] The Implementation Team has little doubt that the PMTs have the authority to do their jobs within the Can-Do framework.

- The degree of authority a team member has from the PMT is more an issue of credibility (that is, how well the member works within a team environment and is able to share ideas and concerns). If this is recognized as a problem, PMTs are encouraged to take advantage of team-building training available through the Highway Division's quality coordinator in the Support Services Bureau.

A conviction driving the development of the Can-Do process was that a better end product would result through teamwork and early identification of problems. A reasonable assumption was that the PMT would have the authority to accomplish its mission. The first hurdle – obtaining Management's buy-in – has been cleared. The second hurdle was to work out the details. The Implementation Team fully recognized how formidable this second hurdle would be, if for no other reason than the cultural change occurring in the development process. However, to make major changes in a process that had yet to have even one iteration was premature. Further, it is better to allow PMTs the latitude to resolve micro issues. If such issues are interfering with a PMT's ability to accomplish its mission, however, and are irresolvable at the PMT level, the Implementation Team is ready to help find solutions.

[8] Ken Blanchard and Susan Fowler-Woodring, *Empowerment: Achieving Peak Performance Through Self-Leadership*, 1998.

Notes

3.3 QUESTIONS AND ANSWERS

Several questions, discussed below by category, were raised during the listening sessions. As with any change, there are more detailed questions than apparent answers. Typically, the specifics are not as important to the whole as is the approach, which often requires innovative problem solving.

3.3.1 PMT Leadership

Question

Who is the PMT's leader?

Response

The Can-Do process is built around District leadership. Specifically, the district planner is responsible during the planning phase, and the assistant district engineer (ADE) is responsible during the design phase. Both phases are essentially the same in how team leadership is applied. Clarity and flexibility must be maintained, as illustrated in the following cases:

- Case 1. During the planning phase (Events Nos. 1 – RANK through 32 – CMAP, Obtain Commission Approval), the district planner is responsible for ensuring that a project moves forward according to the established schedule. The PMT can vary the way this effort is accomplished, as it deems practical. For example, by mutual agreement the district planner could recognize the Corridor Development Section's role in early development and designate that section to lead the efforts through certain phases, such as the collection of engineering data for the develop alternatives phase (Event No. 17 – ALTS) and initiation of the scoping meetings with the resource agencies. That does not mean business as usual. In this case, it would be the district planner's role to coordinate the PMT's efforts and to call special meetings when deemed necessary, while maintaining the principles of the Can-Do process (see Section 3.6, below).
- Case 2. During the design phase (Event No. 31 – PDES), the ADE is responsible for overseeing project development. Again, the PMT decides who is in charge. For example, by mutual agreement within the PMT, the ADE could recognize the Office of Design's role and designate the design project engineer to lead the efforts through certain phases such as preliminary and final design or geotechnical design (Event Nos. 15 – GEO1, perform preliminary geotechnical review; 36 – GEO2, perform geotechnical fieldwork; and 56 – GEO3, perform final geotechnical design). The lead could easily be shifted to the Office of Right-of-Way as project development moves into the appraisal and acquisition phase (Event Nos. 51 – RWAP and 57 – RWCN). Again, this is not business as usual; it is business in accordance with the Can-Do principles.

To clarify, this delegation of leadership to a subgroup does not exclude the district planner, ADE, or PMT from the process. Rather, the district engineer (DE) is ultimately responsible for ensuring that:

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- PMTs are established for all projects requiring an environmental document (EA or EIS). Categorical exclusions are not necessarily included in this group.
- All steps are accomplished for projects in the Can-Do process.

The PMT can parcel out individual leadership roles and areas of responsibility however it sees fit. Also, the district planner and ADE have joint and overlapping (not segmental) leadership responsibilities to work toward a common goal for the project during both the planning and design phase.

Another issue not currently covered in Can-Do is the projects that do not require an environmental document. It is generally understood that there will be only one development process. The Can-Do process was developed for Type I and II projects requiring an environmental document because these projects are the most complex and encompass all facets of the development process. However, it is intended that the Can-Do process will be adopted for Type I, II, and III projects. The major difference between types is the point at which a project enters the time line and whether there is a need for a formal PMT.

In the case of rehabilitation, resurfacing, and restoration (3R) projects, for example, it can logically be argued that a formal PMT does not add value to the process. If that is the true, someone still needs to provide management oversight. That individual or entity would be responsible for coordinating among various developmental groups and ensuring that a project moves through the development process in a timely manner. In Can-Do, that responsibility would lie with the DE and, to a lesser degree, the design project engineer. Again, the specifics of who ultimately has various responsibilities and to what degree depend on the working relationship between the DE and the design engineer, based on project needs as opposed to a mandate from the Implementation Team. (See Section 3.4.2, Other Potential Solutions Considered, for further discussion of pipeline projects.)

3.3.2 Project Review

Question

When should a project go to project review (Event No. 30 – PJRV)?

Response

Comments during the listening sessions indicated a concern with keeping Management informed of the process and decisions being made by the PMTs. To minimize rework, Management must be included in the process as a stakeholder. The Can-Do process allows for two presentations to Management and FHWA:

- The first is to occur before the formal public hearing. This presentation is to be only a project briefing, intended to provide information on alternatives being prepared for public presentation.
- The second is scheduled just prior to the Commission presentation. It is intended to brief Management on the public hearing transcript, the PMT's preferred alignment, and the rationale for that decision.

Notes

These meetings need to be structured as informational briefings, as opposed to an opportunity for redesign by Management. The Implementation Team holds that buy-in and stakeholder involvement on the part of the PMT, Management, and FHWA should be continuous but much less formal than having multiple Project Review meetings.

Specifically, the PMT should not be working in isolation from Management or FHWA. The Implementation Team intends that PMT members freely and continuously keep their supervisors abreast of issues, resource needs, and progress to avoid surprises. Further, it is the responsibility of the district planners, DEs, and individual office directors to keep Management apprised of development issues and their resolution. It is the PMT's collective responsibility to ensure that this chain has no weak link. The first step is persistent and continual communication.

3.3.3 Public Involvement

Question

What form will the public involvement process take?

Response

Iowa DOT is required by 761 Iowa Administrative Code (IAC), Chapter 110, to maintain a public involvement action plan to document compliance with Section 109(h), Title 23, United States Code (USC). Chapter 5 addresses public involvement action plans.

As the Can-Do process was being developed, it became evident that Iowa DOT had opportunities to improve the stakeholder involvement process. This realization led to the concept of public information meetings. To further the goal of open meetings and enhanced public involvement, the Implementation Team recognized that *one process does not fit all* and that Iowa DOT needed to be flexible in tailoring the public involvement program to the particular needs of each project. The Implementation Team was asked to develop guidance and recommendations for tailoring the public involvement process to a particular project's needs. (See Chapter 5, Development of a Public Involvement Program.)

3.3.4 Scheduling

Question

What is being done about processes that are likely to cause a scheduling problem?

Response

The best solution is early and continuous involvement of all stakeholders. To assist the PMTs, the Implementation Team developed a PMT Responsibility Checklist (see Appendix B). While the checklist is admittedly a first step at this time, the intent is for the PMTs to use it (and modify as necessary) to ensure that key areas and issues are addressed in a timely manner.

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The listening sessions also dealt with *"hot priority projects that just drop in from the blue."* Significant concern was expressed (justifiably) about such projects, *"just appear"* and take priority over those projects that are moving through the process in the normal fashion. Obviously, this situation jeopardizes the entire Can-Do process – especially as it relates to resource allocation.

The Implementation Team fully recognizes the potential problem and has discussed the issue. Unfortunately, there are no real complete or immediate solutions, partly because the previous development process was based on a back calculation from project letting as opposed to management of the overall process. This started the downward spiral of not being able to manage resources, which led to further degradation of the project schedule. Also, Iowa DOT is a public entity and therefore does not have full control over its destiny. The Can-Do process offers the opportunity to manage these challenges effectively because of its PMT oversight, concurrent processing, improved communication, and stakeholder involvement.

The only uncontrollable issue (with or without the Can-Do process) is that Iowa DOT is a public entity. Taking a serious approach to managing projects, instead of letting the projects manage Iowa DOT, will enable a credible and viable scheduling process to be developed. At that point, office directors can begin to have a planning tool for telling Management: *"You want to do 'X', but here are the impacts."*

Until the scheduling engineer has a formal scheduling process in place, the PMT should employ the following interim measures:

- Formally lay out the project schedule at one of the first PMT meetings, modeling it after the schedule provided in the October 1997 Can-Do Report.
- Complete the Can-Do Project Tracking Document (dated February 8, 1999) provided by the Implementation Team for each project and return it to the production schedule engineer. The Tracking Document is dynamic; it is to be filled out as completely as possible initially and then updated as additional benchmarks are reached. All Can-Do projects are to be monitored through the use of this document until a formal tracking process is operational.

3.3.5 Frequency of PMT Meetings

Question

How often should a PMT meet?

Response

The frequency depends on how often the PMT needs to meet to identify and resolve issues, build consensus, and manage the project. Thus, the meeting frequency is a PMT decision based a project's needs.

Several individuals at the listening sessions expressed their preference to schedule reoccurring (perhaps monthly) meetings well into the future to reserve a tentative meeting time. Then, a meeting can be held if there are agenda items; if not, the meeting can be

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canceled. The Implementation Team sees advantages in this approach, but, again, the meeting frequency is a PMT decision.

A secondary, interconnected issue is the question of what constitutes a PMT meeting. The Implementation Team purposely set no parameters. Each PMT could establish guidelines as to what constitutes an official meeting for its group, but the PMTs are urged not lose sight of the goal of *continuous, multidisciplinary participation and buy-in during the development of a project.* PMTs should not wait to schedule a meeting until they have an identified problem. Then it is too late.

It is imperative to be proactive and maintain continuous communication. A PMT meeting could be as minimal as a phone conversation between a planner and a design project engineer about an issue, or as formal as a meeting of all PMT members. In either case, the primary object is to obtain multidisciplinary input through enhanced communication and to develop buy-in through consensus. As long as the results of the planner's and design project engineer's phone conversation are communicated to the PMT, and the PMT agrees with the conclusions, a meeting has occurred.

3.3.6 Consultant Participation on PMTs

Question

To what extent should consultants participate on PMTs?

Response

The Implementation Team considers this is an issue for the PMT to determine, based on project needs and reasonable requirements to ensure that the project is developed on time and on budget. Molding a *one process fits all* approach is difficult because of the varied usage of consultants.

The most important issue when consultants are involved is for the PMT to maintain control over the process and decision-making. Can-Do is not a mechanism for outsourcing Iowa DOT's responsibility to manage the development process.

In general, if a consultant is hired to provide a turnkey (planning to letting) package, it is reasonable to include the consultant in key PMT meetings. Without that involvement, at least one member of the PMT should be responsible for providing the consultant with important information generated during a PMT meeting and for ensuring that issues raised by the consultant are discussed and resolved by the PMT. If a PMT member is willing to perform this intermediary role, it suffices for the team to agree on that assignment. It is also acceptable for the PMT to opt to include key individuals from the consultant's project team.

In situations where consultants provide a selected portion of the project development, or their work product is incorporated into a portion of the development process, it is reasonable for the office responsible for the consultant contract to be the liaison between the PMT and the consultant. For major portions of work, highly sensitive issues, or short turn-around times, however, it may be just as reasonable for the consultant to participate as a member of the PMT.

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In summary, the PMT is empowered to complete its work in the most practical way, provided that the principles of Can-Do are upheld.

3.4 TIME DEMANDS FOR PMT MEETINGS

Remarks

Another concern raised in the listening sessions pertained to the time demands brought about by PMT meetings. The time issue became critical and comments were expressed with more urgency when projects already in the development phase were added to the scenario.

Response

The Implementation Team fully recognizes the uneven work load distribution and intimately understands a full work schedule. Obviously, the development work load is not evenly spread over the Districts, and probably never will be. However, the stakes are so high that work load cannot be the sole driver of whether the PMT concept is successful – at least not without significant searching for time management alternatives. Some brainstorming for alternatives occurred at the listening sessions.

Part of the perceived problem could be a lack of understanding of the Can-Do principles. To illustrate, comments such as *"I had a full plate before Can-Do"* and *"It is impossible to include the additional work load to my schedule"* are without a doubt true from the presenter's perspective; what is evidently not understood, however, is that any one member on a PMT need not attend every meeting. While there is no flexibility in the overall management responsibility (that is, the District has overall project responsibility), there is flexibility in the leadership roles, as discussed above in Section 3.3.1, PMT Leadership.

3.4.1 Solutions Offered by the Implementation Team

The Implementation Team fully expects PMTs to:

- Avail themselves of support staff and, when they are going to be absent, convey concerns, issues, and comments to other PMT members for presentation at the meetings.
- Select a team member or an office support person to take the minutes of PMT meetings and have the minutes distributed to all members. To facilitate information sharing, there is an electronic repository for Can-Do projects on the "S" drive of LAN. This electronic initiative improves communications by providing on-line accessibility not only to PMT members but also to everyone connected to the network. In addition, it facilitates ultimate electronic archival of pertinent decisions and general project information.
- Think outside the box to solve problems. The Implementation Team cannot mandate but has encouraged, for example, use of the Iowa Communications Network (ICN) to help reduce the burden of travel and to assist with time management. Although the use of ICN has practical limitations, it can be

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valuable given the right circumstances. Another illustration of problem solving is the sharing of work loads among Districts, where practical and reasonable.

3.4.2 Other Potential Solutions Considered

Other potential solutions were raised by listening session participants and discussed:

- Combine the Target Review meeting with the Production Schedule meeting and, in effect, make the new combined meeting a surrogate PMT meeting.

  The Implementation Team does not agree that this combination of meetings should in any way replace regular PMT working meetings. The current Target Review and Production Schedule meetings have evolved out of the necessity for various offices to discuss project development issues. It appears that these meetings could be greatly streamlined (or even eliminated) if all projects had a PMT performing as intended. Each PMT would track the project development status to maintain the development schedule. The PMT would initiate schedule changes and bring them to management, rather than the current procedure of having a major Target Review meeting to discuss the project status.

- Redefine the PMT leadership concept for pipeline projects. These projects caused the greatest time constraint concern for the Districts. It was suggested that, because pipeline projects began under the previous development process, they could be allowed to continue by having the design project engineer assume overall responsibility. That approach would maintain the PMT concept and temporarily minimize the work load at the Districts.

  The Implementation Team considers this solution temporary, at best, in that the PMT concept begins in early planning (Event No. 3 – CNPT, Develop Project Concept) and continues through letting. Shifting the project management focus to the design project engineer for the pipeline projects would not reduce the District's work load until after the Can-Do projects move to this point.

  On the positive side, the idea has merits, would reduce the PMT management work load for districts, and would add value to the process – at least for those pipeline projects that are in the early phases of design and/or require completion of an environmental document. Before such a solution could be implemented, the Implementation Team would need to discuss it with, and obtain buy-in from, the Design Project Engineers.

3.5 OTHER ISSUES

Remarks

The Implementation Team heard several issues that pertained to *"what-if"* scenarios and were generally couched in a *"cannot be done"* tone, as opposed to *"here is a problem; here are potential solutions; and here are the unresolvable problems."*

The Implementation Team also heard concerns regarding existing bottlenecks that were probably going to worsen, at least during transition into the Can-Do development style. These concerns fall into two categories:

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- Information delays. Several participants expressed concern about current delays in obtaining information on traffic analysis and turning movements.
- One-person functions. It was noted that a few areas within certain offices have very limited capacity (redundancy) in a service the office provides. Typically, none of these functions exist on the Can-Do's critical path. With the streamlined Can-Do approach, however, a lack of redundancy can have significant consequences should there be a problem. It is conceivable for a situation to result in that task becoming a controlling item of work.

Response

The Implementation Team addressed these remarks by first addressing the issue of project size, which may be complicating mental visualization of the magnitude of any single task within the Can-Do process.

3.5.1 Typical Project Size

To illustrate the issue of project size, the Corridor Development Section deals with corridors that may be many miles long and contain more than one alternative, at least in the early phases of development. Final design typically begins with the same-size project as that of the Corridor Development Section but then breaks it into smaller individual design projects that are a subset of corridors. There generally are multiple projects within a planning corridor.

The situation changes, however, when the new Can-Do customer is from a work group that deals in corridors and the baseline work reference is project size. The complications are magnified when neither the customer nor the provider communicates actual needs and priorities. Practically speaking, nobody (service provider nor customer) can work on an entire 20-mile project (with multiple corridors) all at one time. It then becomes an issue of dividing the whole into pieces and setting priorities for those pieces.

The Can-Do process was modeled around a typical, slightly to moderately controversial, new four-lane construction project of about 5 to 7 miles. Larger and/or more controversial projects must be evaluated early by the PMT, and on an individual case-by-case basis, to determine scheduling restrictions, resource availability, opportunities for packaging and prioritization, etc.

During development of the Can-Do process, individual task start dates were moved forward and some were reordered. Very few individual process durations were shortened, however, and no durations were shortened without direct input from the individual office or section affected. Consequently, if there was time in the old process to complete a job, something has changed to precipitate comments such as "it cannot be done." In some cases, more work is now required because of multiple alignments. Internal resources are finite and were generally fully committed before Can-Do.

In those cases where the work cannot be completed by internal resources within the customer's time frame, the work has to be outsourced. It is unacceptable for a support function or service provider to become an impediment to timely completion of the customers' work. Office directors and section leaders who find themselves in such a

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situation and do not have a ready solution are encouraged to bring the issue to the Implementation Team for help with problem solving.

3.5.2 Bottlenecks

The issues of existing bottlenecks and "one-person functions" were corrected through awareness at the last Iowa DOT restructuring. The issue of obtaining timely traffic analysis and turning movements can be addressed by prioritizing individual segments within a request.

3.6 GUIDING PRINCIPLES FOR PMTS

To implement the Can-Do process as intended, each PMT should be guided by the following eight principles:

- Take responsibility (as a team and individual members) for developing a quality, constructible project on time and on budget. PMT leadership is the overall responsibility of the Iowa DOT districts because they are the closest to the customer and the most familiar with customer needs. (Refer to Section 3.3.1, PMT Leadership, above.)
- Identify potential problems early.
- Initiate data collection and external comments early and continuously.
- Develop solutions based on complete and reliable data.
- Work continuously for consensus in decision-making and communicate these decisions thoroughly to all affected offices.
- Develop a project from the bottom up, with the goal of zero rework. The keys to this are to:
  - Fully investigate all reasonable alternatives.
  - Build on previous work.
  - Provide a seamless transition for project data, to the extent possible, all along the development time line.
  - Build consensus among both internal and external customers.
- View the teamwork and consensus-building model as a multidirectional process, not just a forward process. For example, if a change has to be made in the Office of Design, consult the Corridor Development Section for input and buy-in.
- Complete investigatory work and documentation early and on multiple alignments, recognizing that some data may not be used. Base decisions on factual information and broad-based stakeholder input. Avoid making decisions before collecting adequate data to defend that action.

These guiding principles do NOT authorize the PMTs to:

- Remove or replace the project development responsibilities of individual offices within the development process. For example, the Corridor Development

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Section still does planning work and the Office of Design still does design work. The difference is, for example, that the Corridor Development Section does its work by including the early and continuous input and buy-in from those who are affected by the decisions it makes. The PMT is the vehicle for this involvement. The buy-in/teamwork concept is further propagated to all those offices with responsibility for developing a project from the planning study through letting. (As used here, "planning studies" are conducted before a project moves into Can-Do.)

- Circumvent the resource allocation responsibility of any individual office director. PMTs must identify resource needs as early as possible and work with individual office directors to ensure that resources (internal and/or outsourced) are available and can be committed before a development schedule is finalized or a problem is encountered.

CHAPTER 4

Context-Sensitive Design

Notes

CHAPTER 4
CONTEXT-SENSITIVE DESIGN[9]

4.1 OVERVIEW

Context-sensitive design (CSD) is an approach to highway planning and development that fits the roadway into the environment rather than modifying the environment[10] to fit the roadway. This approach uses the project *context* (that is, the environment and the people who live, work, or pass through the area) and public input to guide development of the project concept and design elements.

The principles of CSD are:

- Establish a multidisciplinary team (the PMT) to plan and develop projects.
- Maintain open and continuous communication with all stakeholders.
- Understand the landscape involved, the neighboring community, and the valued resources in the area before beginning the engineering design.
- Maximize flexibility.

4.1.1 Contrast with the Traditional Approach

CSD is a part of Can-Do. It takes the project development process to a higher level by asking designers to "think beyond the pavement" about the impact a travel-way will have on the area it traverses. The resulting project is in harmony with its surroundings, and the various project elements are in harmony with each other.

CSD remedies the traditional situation, in which the decisions made in the early stages of planning and corridor development greatly limited flexibility during the detailed design phase. That situation detracted from the ultimate design of a highway.

Traditionally, detailed design occurred in the middle of the process, linking the preceding planning and corridor development phases with the subsequent final design, ROW acquisition, construction, and maintenance phases. While these are still distinct activities, Can-Do broke with the old linear (end-to-end) process and introduced considerable overlap in terms of concurrent development among the various disciplines. In the CSD approach, highway design is only one part of the overall highway development process.

In contrast, CSD allows flexibility when applying design standards as necessary to accomplish the overall project goals. CSD first asks about the purpose and need of the transportation project, and then equally addresses safety; mobility; and preservation of scenic, aesthetic, historic, environmental, and other community values. Community

[9] Major portions of this chapter and the figures have been excerpted and adapted from FHWA, *Flexibility in Highway Design*, FHWA-PD-97-062, 1997.

[10] *Environment* is an inclusive term that encompasses not only the natural and historic environments but also the human and socio-economic environments.

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involvement is a significant component in CSD, and situations could arise where private citizens or citizen groups would be a part of the project steering committee. The first three stages of CSD—planning, corridor development, and early design—provide Iowa DOT and communities, working together, with the greatest influence on the final design features of the project.

4.1.2 History

The catalyst for CSD was the 1991 Intermodal Surface Transportation Efficiency Act (ISTEA). FHWA's *Flexibility in Highway Design*, states:

> When Congress passed ISTEA in 1991 they ... maintained a strong national commitment to safety and mobility ... and made a commitment to preserving and protecting the environmental and cultural values affected by transportation facilities. The challenge to the highway design community is to find design solutions, as well as operational options, that result in full consideration of these sometimes conflicting objectives. This guide is about designing highways that incorporate community values and are safe, efficient, effective mechanisms for the movement of people and goods. It is written for highway engineers and projects managers who want to learn more about flexibility available to them when designing roads. Aesthetic, scenic, historic, and cultural resources and the physical characteristics of an area are always important factors because they help give a community its identity and sense of place and are a source of local pride.[11]

Subsequently, a policy statement in the 1994 American Association of State Highway and Transportation Officials (AASHTO) National Highway System Design Standards as well as by the 1995 National Highway System Designation Act lent support to CSD. The 1995 act called for designs that take into account "the constructed and natural environment of the area; the environmental, scenic, aesthetic, historic, community, and preservation impacts of the activity; and access for other modes of transportation."

CSD is not a totally new concept at Iowa DOT. The basics have been applied on a case-by-case basis for some time, but to a lesser extent. Examples are:

- An alternative bridge construction sequence proposed for US 63 in Bremer County, proposed by District 2 to avoid opening an additional borrow site.
- A retaining wall on US 151 in Jones County, proposed by the Office of Design to minimize encroachment into a property while avoiding a wetland impact.
- A curbed section on US 63 in Mahaska County to reduce the ROW needs and avoid impacts on a pioneer cemetery.
- Extension of a reinforced concrete box (RCB) on US 65 in Polk County to minimize ROW needs and avoid a buried cultural site.
- Location of US 20 in Hardin County to avoid and minimize impacts to the Iowa River green belt.

[11] Excerpted from the Foreword to FHWA, *Flexibility in Highway Design*, FHWA-PD-97-062.

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- US 71 in Okoboji, Dickinsen County, where local citizens and citizen groups assisted in developing the highway template and aesthetics.

The first four examples applied the principles of CSD very late in final design to avoid a problem, whereas the US 20 project introduced CSD at the time of design. CSD in its entirety, however, is much more thorough. The US 71 project, completed long before CSD became popular, is an example of how to put CSD fully into practice.

4.2 FEATURES OF CONTEXT-SENSITIVE DESIGN

Successful CSD includes:

- Public involvement, beginning early in the process and continuing through the project
- Definition of the purpose and need and the goals for the project
- Extensive field reviews
- Development of multiple alternatives by starting with a blank sheet of paper and involving the public
- Attention to details and documentation of the pros and cons of these details as the project progresses
- Development and evaluation of creative and innovative design solutions
- Flexible and creative design criteria
- Visualization techniques to aid the public and external customers
- Refinements during corridor development (which includes Events No. 1 – RANK through No. 32 – CMAP, Obtain Commission Approval)
- Early and continuous use of a multidisciplinary design team to assist the PMT

The following elaborates on three of these features: public involvement, project definition, and visualization tools.

4.2.1 Public Involvement

Public involvement is effective only if sought from the beginning, when there are the greatest opportunities for design changes. To produce a smoother and faster process, continuous public input should be enlisted while:

- Defining the need for the project
- Assessing the characteristics of the area
- Determining community values, such as physical features that are most valued by the community and thus have the greatest potential for impact
- Identifying potential alternatives
- Solving design conflicts

To be proactive, these efforts must go far beyond the usual presentation of well-developed design alternatives at formal public meetings and hearings. For a variety of innovative public involvement techniques, refer to:

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- Chapter 6, Techniques for Public Involvement
- *Public Involvement Techniques for Transportation Decision-making*, issued by FHWA and the Federal Transit Administration (FTA) in September 1996
- FHWA's *Community Impact Assessment: A Quick Reference for Transportation,* published by FHWA in October 1996, which describes the community impact assessment process

Figure 4-1 illustrates the vital role of the public during the entire project development process.

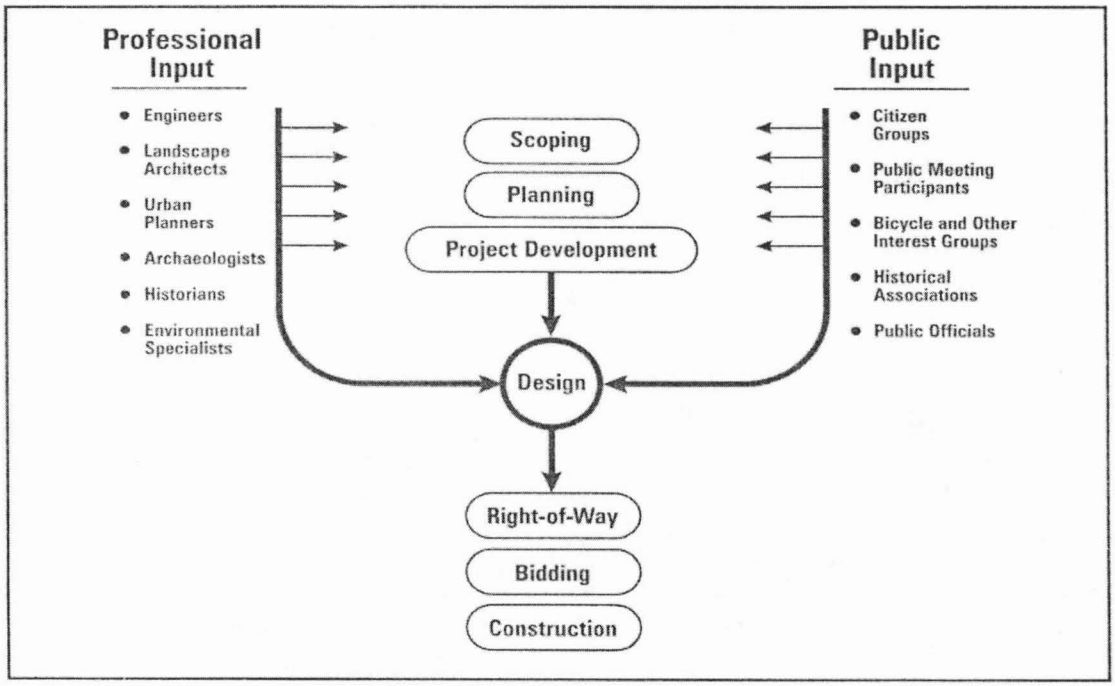

Figure 4-1. Balanced Design with Professional and Public Input

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4.2.2 Definition of the Problem (Need)

4.2.2.1 Awareness of CSD Principles

It has always been important, during the planning and corridor development stage, to look ahead and consider the potential impact of a proposed facility or improvement. This forward vision is even more critical when CSD principles are applied because key decisions will affect and limit the design options in subsequent phases. Questions to answer during the early stages, with the help of public involvement, include:

- How will the proposed transportation improvement affect the general physical character of the area surrounding the project?
- Does the area to be affected have unique historic or scenic characteristics?
- Does the area to be affected have any unique natural or human resources that need to be protected?
- What are the community's safety, capacity, and cost concerns?

Knowing, for example, that certain existing features are valued by the community can help designers avoid them, thereby reducing the need for mitigation and the likelihood for controversy.

4.2.2.2 Consensus

Typically, the need for any highway or bridge improvement project is first defined during the planning and/or corridor development stage. This definition usually occurs at the district, regional, and/or local level, depending on the scale of the proposed improvement. For all Iowa DOT work, this is the time to engage the public and obtain input into the decision-making process.

Regardless of the problem (or set of problems) identified, all parties must agree that the problem actually exists and that it is accurately identified and well defined. Consensus on acceptable solutions (a range, if possible) is also needed. If early consensus on the definition of the problem and possible solutions cannot be reached, it will be difficult to move ahead in the process and unrealistic to expect consensus on the final design.

Also, there must be agreement that the problem should be remedied. For example, some communities may decide not to pursue a project. They may acknowledge that a roadway is operating over its capacity, but may not want to improve the roadway for fear that such action would encourage more growth along the corridor. Similarly, road access may be a problem, but a community may decide against increasing access because it might spur development. Such decisions are not necessarily standard highway design solutions but are definitely well within the parameters of CSD considerations.

4.2.3 Visualization Tools

Effective communication between two parties requires a common language. In design, this can be achieved with illustrations that show stakeholders what a project will look like after it is built. Increasingly, computer-generated visualization tools are used for this purpose. Designers can communicate conceptually what they are planning for an area, and citizens can react with a certain degree of confidence that they understand what is

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intended. Lower-end computer systems use a photograph of the existing project area and, by means of computer graphics, superimpose a drawing depicting the new construction. Visualization tools such as these help the public gain a better understanding of the proposed project.

4.3 FACTORS IN A CONTEXT-SENSITIVE DESIGN CONCEPT

A design concept that follows the CSD principles focuses the project and helps to move toward timely consensus building. Each of the many elements in a highway involves a number of separate but interrelated design decisions. Integrating all these elements to achieve a common goal helps the designer in making design decisions. Figure 4-2 illustrates some of the many considerations involved in the design challenge.

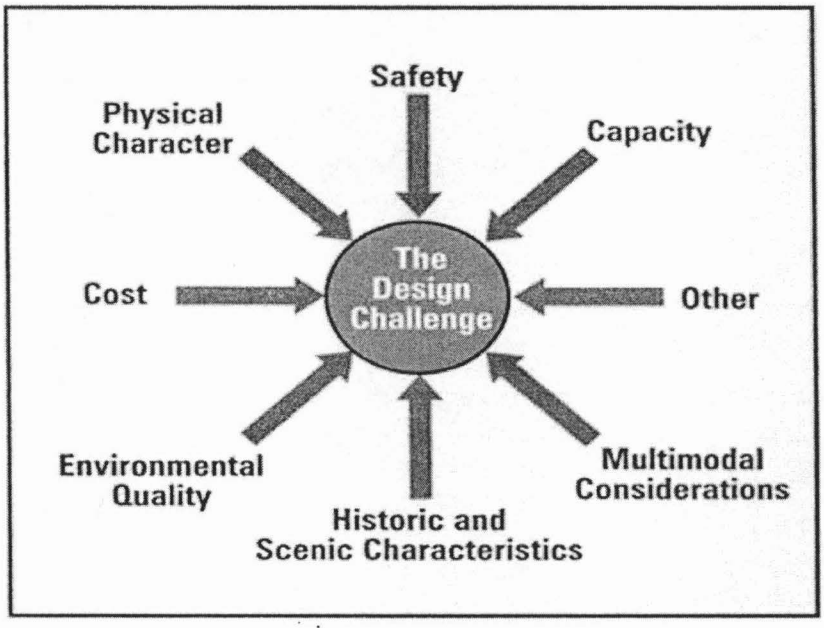

Figure 4-2. Design Considerations

Here again, Can-Do enhances CSD principles because the PMT is charged with achieving early and continuous public involvement, establishing a design theme for the roadway, and/or determining the existing character of the corridor that needs to be maintained. Further, the PMT is charged with maintaining design consistency with regard to physical size, visual continuity, and avoidance of environmental conflicts, all of which are important factors in CSD. This prevents having to force-fit design elements as add-ons late in the development process, such as landscape treatments to try to embellish a design that is not quite right or is unacceptable to the community. CSD enhances opportunities for input from landscape architects, architects, planners, urban designers, and others. Enlisting their skills from the beginning increases the chances of project success.

Using the surrounding context and public input to guide the development of the concept helps achieve a harmonious, holistic design. Often this approach does not result in the lowest first-cost, and it does not always apply the highest (most conservative) design standards, but is warranted to fit the roadway into the environment rather than unduly

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alter a sensitive environment to fit the roadway. Such actions also demonstrate to environmental stakeholders that impacts are minimized.

4.3.1 Scale

People driving in a car see the world at a much different scale than people walking on the street. This large discrepancy in the design scale for a car versus pedestrians has changed the overall planning of our communities.

CSD fully integrates the two different design scales and considers the safety of pedestrian and non-vehicular traffic, along with the safety of motorists. For example, proper consideration of scale would minimize the chance of a proposed "improvement" turning a roadway that once allowed pedestrian access to both sides into a barrier and changing the way pedestrians use the road and its edges.

The wider the overall roadway, the larger its scale. The design element with the greatest effect on the scale of the roadway is its width, or cross section. The cross section can include a clear zone, shoulder, parking lanes, travel lanes, and/or median. Certain design techniques can help to reduce the perceived width, and thus the perceived scale, of the roadway and make it look less imposing. Examples are:

- Limiting the width of pavement
- Breaking up the pavement with a grass or planted median.
- Using grass shoulders, as in many parts of the Southeast
- Providing green space between the roadway and the sidewalks
- Adding non-motorized vehicle paths and the travel lanes

Whether such design techniques are appropriate depends on the context of the area; volume, type, and speed of traffic; and the needs of pedestrians and bicyclists. These types of shoulders limit the perceived width of the roadway and still provide a breakdown area for motorists.

Elements (or a lack of elements) along the roadside also contribute to the perceived width of the road, as illustrated in Figure 4-3. The following may help reduce the perceived width and speed of the road:

- Horizontal and vertical alignment
- Cross-section elements
- Vegetation along the roadway
- Buildings close to the road
- On-street parking
- Noise walls

Considering such elements as these is vital in designing a facility that is compatible with its surroundings. These elements can even affect the speed at which motorists travel. All else being equal, the wider the perceived road, the faster motorists will travel

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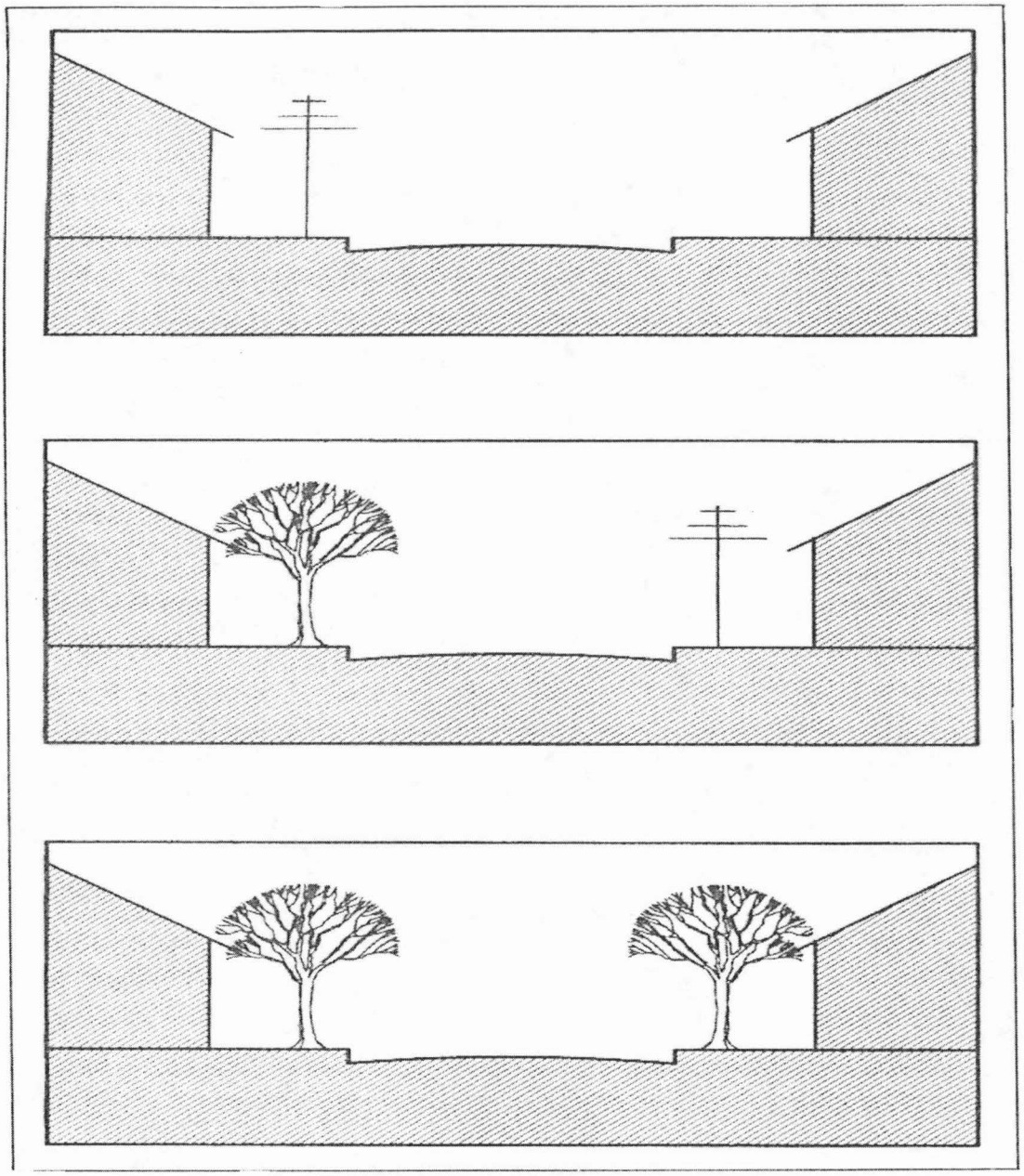

Figure 4-3. Differences in Perceived Roadway Width

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4.3.2 Scoping

Just as in planning, many decisions are made during the scoping phase of corridor development, regardless of the level of detail being studied. Therefore, it is important to identify the various stakeholders in the project and provide them with the opportunity to become involved (refer to Chapter 5 for public involvement options). The general public should not be omitted during scoping, although a different approach is usually needed with the general public than with those who are more intensely interested.

A good community impact assessment will also help identify stakeholders and avoid overlooking inconspicuous groups. FHWA's guide entitled *Community Impact Assessment: A Quick Reference for Transportation* describes this community impact assessment process.

To be sensitive to the environment surrounding the project, the PMT must carefully consider context and physical location during all stages of development. This is true whether a house, road, bridge, or something as small as a waiting shelter for bus passengers is to be built. A data collection effort may be needed. Site visits and contacts with residents and other stakeholders in the area may also be involved in this effort.

Some of the questions to ask at this stage include:

- What are the physical characteristics of the corridor? Is the setting urban, suburban, or rural?
- How is the corridor being used (other than for vehicular traffic)? Do bicycles and other non-motorized vehicles or pedestrians travel along the road? Are there destination spots along the traveled way that require safe access for pedestrians to cross?
- What is the vegetation along the corridor? Is it sparse or dense? Are there many trees or special plants?
- Are there important viewsheds from the road? On the other hand, are there reasons to obscure the proposed roadway?
- What is the size of the existing roadway and how does it fit into its surroundings?
- Are there historic or especially sensitive environmental features (such as wetlands or endangered species habitats) along the roadway?
- How does the road compare with other roads in the area?
- Are there particular features or characteristics of the area that the community wants to preserve (such as a rural character, neighborhood atmosphere, or main street) or change?
- Is there more than one community or social group in the area? Are different groups interested in different features/characteristics? Are different groups affected differently by possible solutions?
- Are there concentrations of children, the elderly, or disabled individuals with special design and access needs (such as pedestrian crosswalks, curb cuts, audible traffic signals, median refuge areas)?

Figure 4-4 illustrates several important considerations during scoping.

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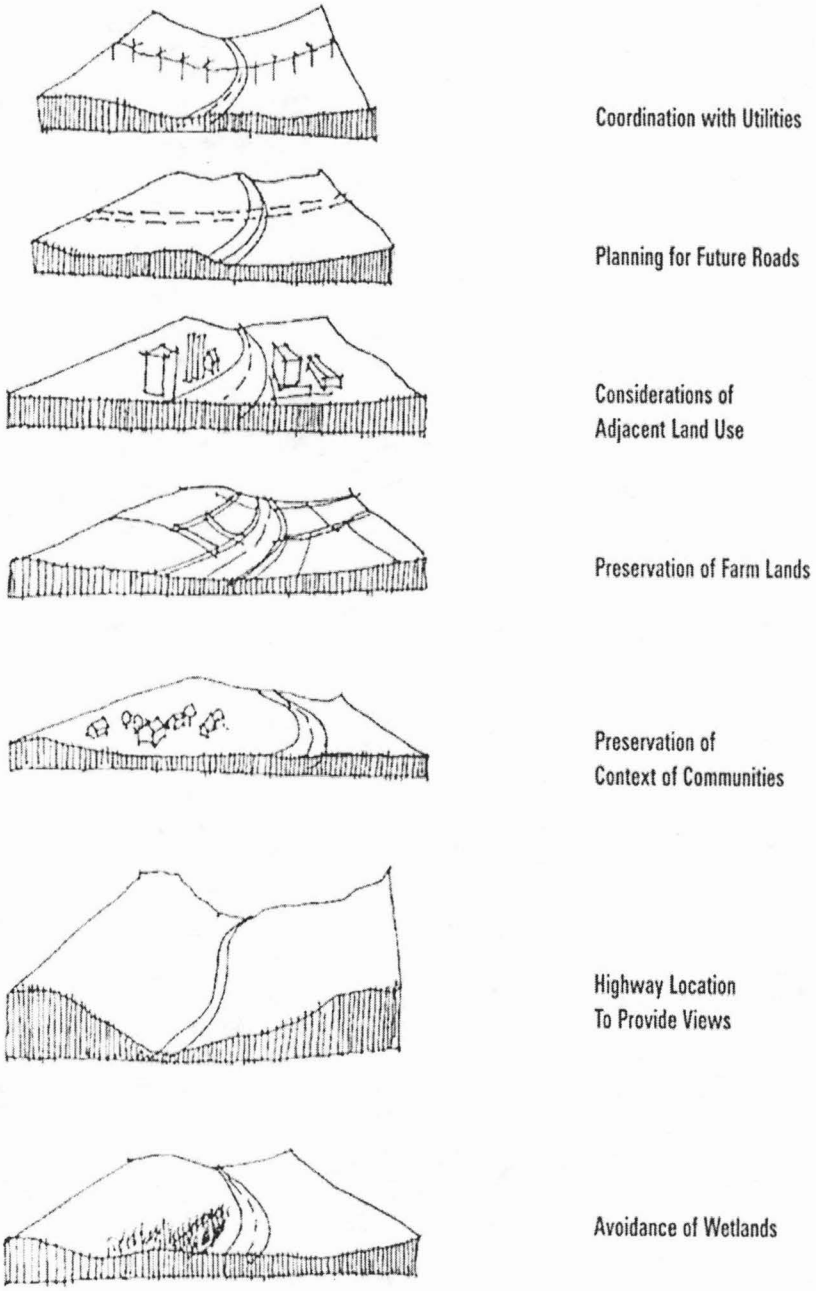

Figure 4-4. Scoping Issues

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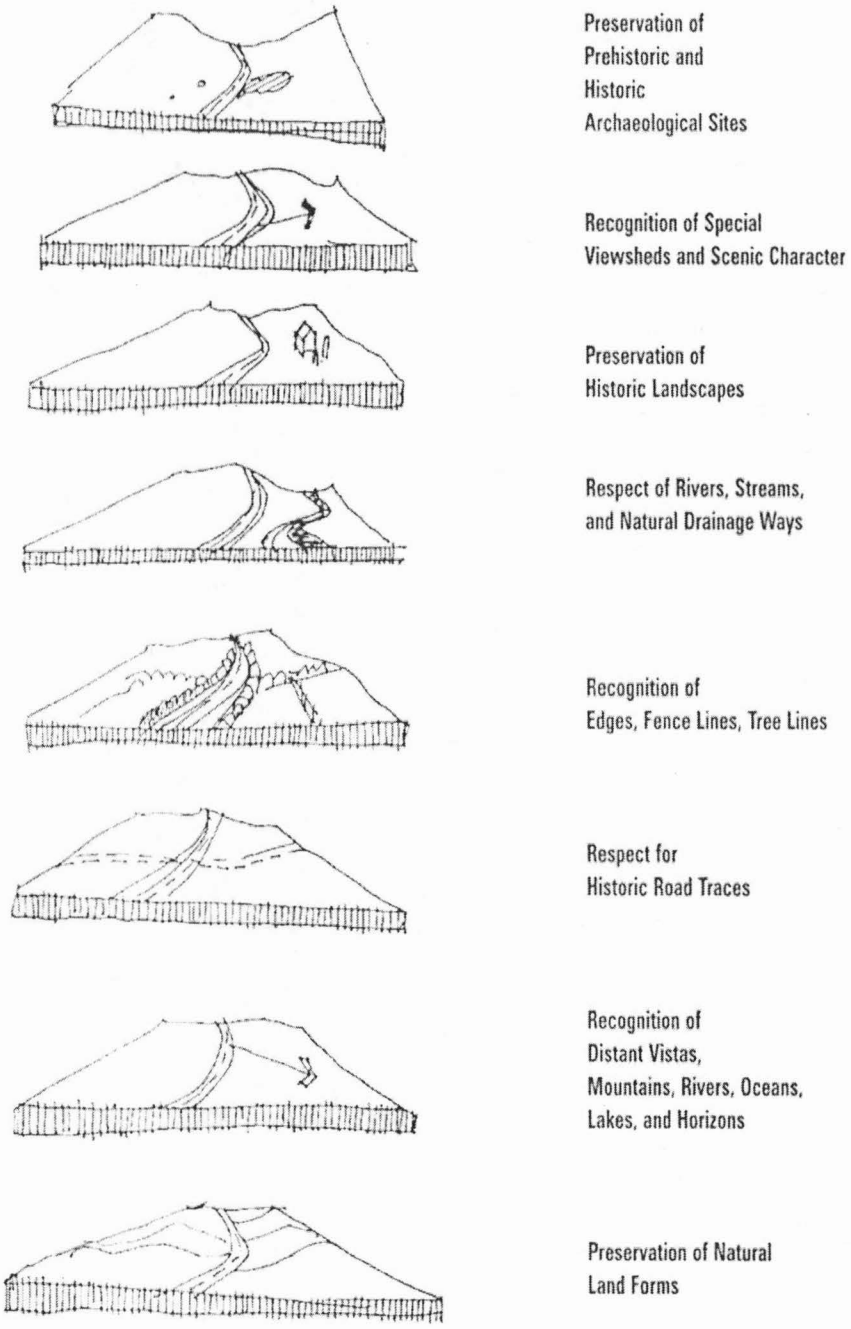

Figure 4-4. Scoping Issues (cont'd)

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4.4 FLEXIBILITY IN DESIGN

After a preferred alternative has been identified, the environmental document is completed, and the Commission has approved it, a project moves into the final design and ROW acquisition stage. Imagination, ingenuity, and flexibility come into play at this stage, within the general parameters established during planning and corridor development. Designers need to be aware of design-related commitments made during project planning and development, as well as proposed mitigation. They also need to recognize minor changes in the original project and design concepts developed during the planning phase that can result in a better final product.

The new aspect here is a broader view of the final product than is possible with Green Book design standards (see Section 4.4.2, below, for a discussion of the Green Book). CSD takes into account the natural and human environment through the interests and involvement of affected stakeholders. Many of the same techniques employed to facilitate public participation during the earlier corridor development phases need to be continued during the final design phase.

4.4.1 Detailing the Design

The PMT is responsible for ensuring that important design details are considered and are compatible with community and environmental values. Often, the details of the project are most recognizable to the public. For example, a special type of tree used as part of the landscape plan, antique lighting, brick sidewalks, and ornamental traffic barriers are all elements of a roadway that are easily recognizable and leave an impression. Because of their visibility, the treatment of details is a critical element in good design. But, aesthetics and environmental avoidance/mitigation are not the only CSD considerations.

Thus, design involves the difficult process of merging these previous design decisions with the appropriate design criteria in the Green Book and Iowa DOT's Design Guides, working within the existing environmental and other important constraints, and using a designer's best judgment and experience to make decisions.

4.4.2 The Green Book

The reference most often used by designers during the design of a highway project is *A Policy on the Geometric Design of Highways and Streets*, commonly referred to as the "Green Book." It has been published by AASHTO, in one form or another, since the late 1930s. FHWA has adopted applicable parts of the Green Book as the national standard for roads in the NHS, which comprises all interstates and some other primary routes. The design of roads other than those in the NHS is subject to the standards of the particular state, which are usually based on Green Book criteria.

While the Green Book is often viewed as dictating a set of national standards, it is not a design manual. The Green Book is actually a series of guidelines on geometric design within which the designer has a range of flexibility. The foreword states:

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> The intent of this policy is to provide guidance to the designer by referencing a recommended range of values for critical dimensions. Sufficient flexibility is permitted to encourage independent designs tailored to particular situations.

The Green Book guidance on the geometric dimensions of a roadway includes the widths of travel lanes, medians, shoulders, and clear zones; width and shape of medians; turning radii; and other dimensions. Many aspects of design are included by reference, rather than directly, such as:

- Aesthetic treatment of surfaces
- Development of the project concept
- Design within the appropriate context
- Functional classification and appropriate functional requirements, capacity, and level of service
- Landscape development
- Light fixtures
- Roadside development
- Structure design
- Traffic operations

4.4.3 The Design Exception Process

Despite the range of flexibility that exists with respect to virtually all the major road design features, there are situations in which the application of even the minimum criteria would result in unacceptably high costs or major impact on the adjacent environment. For such instances, when appropriate, the design exception process allows for the use of criteria lower than those specified as minimum acceptable values in DOT's Design Manual. Additional information is provided in the Green Book.

For projects on NHS routes, FHWA requires justification and documentation of all exceptions from accepted guidelines and policies as well as formal approval for 13 specific controlling criteria. For non-NHS projects, states exempt from FHWA oversight may also follow the process of justification and documentation, though not required to do so. Examples of these criteria are:

- Bridge width
- Cross slope
- Design speed
- Grade
- Horizontal alignment and horizontal clearance (not including clear zone)
- Lane width
- Shoulder width
- Stopping sight distance
- Structural capacity
- Super-elevation

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- Vertical alignment and vertical clearance

A few points to consider when evaluating design exceptions are:

- Effect on the safety and operation of the facility
- Compatibility with adjacent sections of the roadway
- Functional classification of the road, amount and character of the traffic, type of project, and accident history of the road
- Cost of attaining full standards and any resultant impact on scenic, historic, or other environmental features
- Degree to which a guideline is being reduced
- Effect on other guidelines
- Any additional features being introduced that would mitigate the exception

4.4.4 Highway Classification

4.4.4.1 Relation to Highway Design

The Green Book explicitly recognizes the relationship between the functional classification of a highway and the design criteria. State, county, and city highway design manuals likewise relate design criteria to the functional classification. The Green Book states:

> The first step in the design process is to define the function that the facility is to serve. The level of service required to fulfill this function for the anticipated volume and composition of traffic provides a rational and cost-effective basis for the selection of design speed and geometric criteria within the range of values available to the designer (for the specified functional classification). The use of functional classification as a design type should appropriately integrate the highway planning and design process.

The functional classifications listed in the Green Book are not used in Iowa. Instead, Iowa DOT has opted to use the following design criteria classification system: freeway, expressway, urban, 2-lane, super 2.

The design criteria classification of a particular roadway defines the allowable range of design speed, which, in turn, defines the principal limiting design parameters associated with horizontal and vertical alignment. Similarly, the design criteria classification establishes the basic roadway cross section in terms of lane width, shoulder width, type and width of median area, and other major design features.

The design criteria classification process, as it relates to highway design, is important because the classification decisions are made well before an individual project is selected to move into the design phase. Moreover, such decisions are made on a systemwide basis by the city, county, Iowa DOT, or metropolitan planning organizations as part of their continuing long-range transportation planning functions. Such systematic reassessments are typically undertaken on a relatively infrequent basis. Thus, the classification of a particular section of highway may well represent a decision made 10 or more years ago. Even after the decision has been made to classify a highway section, there is still a degree of flexibility in the major controlling factor of design speed.

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4.4.4.2 Periodic Reevaluation

Traffic service patterns on a roadway and the roadway's function can change over time. If the classification system for a specific jurisdiction is not updated on a regular basis, roadways may be designed using inappropriate design standards.

The CSD solution is to reevaluate a locality's highway classifications on a relatively frequent and regular basis to ensure that the classification of any particular route accurately reflects the current and foreseeable traffic function. This continuing reassessment process can be viewed as an application of design flexibility even before the decision is made to begin designing a particular project. The decision to change the classification should be made based on a careful review of changed conditions and sound reasoning.

4.4.4.3 Limitations

One of the difficulties surrounding the relationship between highway classification and design guidelines is that the classification process is not an exact science. The predominant traffic service associated with a particular route cannot be definitely determined without exhaustive surveys of traffic origin destination patterns on each link of the road network. Engineering judgment based on experience, together with public input, must play a role in making design decisions.

As a result of variances within Iowa DOT's design criteria classification system, however, design guidelines established in the Office of Design's Brown Book or other State and local government design manuals have overlapping ranges of values. This allows the designer greater flexibility in choosing the most appropriate road design within the determined classification. This flexibility allows designers options to create CSD solutions that are appropriate for that roadway without creating a design exception.

To illustrate, the Green Book indicates that the width of the traveled way for two-lane rural collector facilities should be between 20 ft and 24 ft, depending on traffic volumes, while the shoulder widths on each side of the traveled way should be between 2 ft and 8 ft. Thus, the total width of the roadway can vary considerably – from 24 ft to 40 ft. Two-lane rural arterials can vary from a total roadway width, including shoulders, of 30 ft to 40 ft.

4.4.4.4 Impact of Land Use Changes

Land use is an important determinant of the function of an area's roads. As land use changes because of development, especially at the urban fringe, road functions also change. It is not uncommon for roads that once served as rural local access routes to farmland to become routes serving suburban residential subdivisions and commercial land uses. These roads should then be reclassified as urban collectors or arterials, depending on the intensity of development and the type of traffic generated by the development. Design standards or guidelines must change to meet actual or impending change in traffic character and road function.

Furthermore, a local jurisdiction's actions to control or direct the form and location of growth or to preserve the current physical and scenic characteristics of a highway corridor should reflect the need to reexamine existing functional classifications, and perhaps even jurisdictional responsibilities. For example, the construction of a new

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controlled-access bypass route might allow for a downward reclassification of what had been the arterial route through a community to a collector-level facility.

4.4.5 Role of Design Speed

4.4.5.1 Designation of a Design Speed

Design speed warrants further discussion because flexibility, fitting the highway into the environment, and minimizing accumulated conservatism are central to CSD.

Design speed is used to determine individual design elements, such as stopping sight distance and horizontal curvature. Therefore, designation of the design speed is pivotal to all the various design elements affected by it and should be justified on that basis.

All geometric design elements of the highway are affected in some way by the selected design speed. Some roadway design elements are related directly to, and vary appreciably with, design speed. These include horizontal curvature, super-elevation, sight distance, and gradient. Other elements are less related to design speed, such as pavement and shoulder width and clearances to walls and traffic barriers. The design of these features can, however, affect vehicle operating speeds significantly. As a result, more stringent criteria for these features are generally recommended for highways with higher design speeds. Conversely, less stringent criteria for these features may be more appropriate for roadways with lower design speeds.

The designation of a particular design speed is influenced by:

- Design criteria classification of the highway
- Character of the terrain
- Density and character of adjacent land uses
- Anticipated traffic volumes
- Economic and environmental considerations

Green Book values are minimum acceptable design speeds for the various terrain conditions and traffic volumes associated with new or reconstructed highway facilities. For CSD, designers have to balance the advantages of a higher design speed against the flexibility lost in design. It may be more important to retain the maximum possible flexibility, so that a context-sensitive roadway more in tune with the needs of a community is designed using a lower design speed.

For example, for any particular highway other than a freeway or major arterial, as land use density increases, the design speed would typically decrease. The design speed of an urban collector street passing through a residential neighborhood should be appreciably lower than that for a rural highway with the same functional classification. This also recognizes the fact that bicycles and pedestrians would be more likely to use a route located in an urban area.

Similarly, in areas with significant historic interest or visual quality, a lower design speed may be appropriate in recognition of lower average operating speeds and the need to avoid affecting these historic or aesthetic resources.

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The Green Book agrees with this philosophy:

> Above-minimum design values should be used where feasible, but in view of the numerous constraints often encountered, practical values should be recognized and used.

There is a range of allowable design speeds that may be appropriate for each of the various functional classifications for use in the design of new or reconstructed highway facilities. Situations may arise where even the use of the lowest typically acceptable value would result in unacceptably high construction or ROW costs or impacts on adjacent properties. In such instances, design exceptions can be employed. For the most part, design exceptions are easy to identify and define. For example, the reconstruction of a two-lane rural arterial route through a relatively flat but environmentally sensitive area might need to employ a design speed of 50 mph rather than the recommended design classification of 60 mph.

4.4.5.2 Application of Appropriate Design Speed

For some projects, community residents may perceive an imbalance between the scale of improvement deemed appropriate by the highway designers and that viewed as appropriate by the affected community. Much of this conflict can be traced to the design speed for the specific project.

For example, an older two-lane rural road with a posted speed limit of 45 mph may be adequate to accommodate current and anticipated future traffic demands, except for a short section that contains several sharp curves and has a high incidence of accidents. If this facility were classified as a minor arterial, the State's design criteria might suggest a minimum design speed in the range of 60 to 70 mph for reconstruction of the deficient roadway section. The reconstructed section would then have a significantly higher design speed (and, hence, a higher operating speed and magnitude of physical impact on its surroundings) than the immediately adjacent sections of highway, resulting in a potentially unsafe condition.

A CSD solution would be to apply a lower uniform design speed over the entire length of the route. This would suggest the application of a 50 mph design speed to the reconstruction project to preserve the design continuity and character of the route.

Note that the design speed must be higher than the posted speed and should also be above the operating speed on a facility, regardless of the posted speed.

4.4.6 Level of Service

Once an appropriate design speed has been selected, the other basic defining elements of the highway (that is, the number of lanes and basic configuration of junctions with other highway facilities) can be determined through application of the acceptable peak-hour level of service. Level of service is a grading system for the amount of congestion, using "A" to represent the least amount of congestion and "F" to refer to the greatest amount.

The appropriate degree of congestion (that is, the level of service) to be used in planning and designing highway improvements is determined by considering a variety of factors. These factors include the desires of the motorists, adjacent land use type and

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development intensity, environmental factors, and aesthetic and historic values. The factors must be weighed against the financial resources available to satisfy the motorists' desires.

While the *Highway Capacity Manual* provides the analytical basis for design calculations and decisions, judgment must be used in the selection of the appropriate level of service for the facility under study. Once a level of service has been selected, all elements of the roadway should be designed consistently to that level.

For example, along recreational routes subject to widely varying traffic demands according to the time of year or in response to environmental or land use considerations, the designer may conclude that the selection of a level of service that is lower than what is usually recommended may be appropriate. The selection of the desired level of service for a facility must be weighed carefully, because the facility's overall adequacy depends on this decision.

4.4.7 Role of Geometrics

Some highway facilities may be designed with the greatest concern to fit them into their surrounding environments. Without carefully thought-out design of cross-section details, however, the roadway can still leave the impression of being unappealing.

The design of all elements of the highway cross section adds greatly to its appearance. Design details include the design and width of the median and traffic barriers and the selection of plant material. All these elements contribute to the theme of the roadway and should be considered as a unit.

Details are some of the first elements that users of a facility notice. For example, designers may go to great length to preserve vegetation along the roadway because of its importance to the community and its scenic qualities. If designers use concrete barriers as shields in front of this vegetation, however, that one element may catch the users' attention.

The CSD solution is to work with a multidisciplinary PMT from the beginning of the project development process through the last detail of the design to achieve a unified look.

4.4.8 Horizontal and Vertical Alignment

4.4.8.1 Holistic Design

One definition of a visually attractive and unobtrusive highway is the degree to which the horizontal and vertical alignments of the route have been integrated into its surrounding natural and human environments. This takes careful planning and design, as noted in the Green Book:

> Coordination of horizontal alignment and profile should not be left to chance but should begin with preliminary design, during which adjustments can readily be made. The designer should study long, continuous stretches of highway in both plan and profile and visualize the whole in three dimensions.

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The degree to which a road is integrated into its surroundings separates the outstanding project from one that merely satisfies basic engineering design criteria. The book *Aesthetics in Transportation* describes this holistic design process:

> A general rule for designers is to achieve a "flowing" line, with a smooth and natural appearance in the land, and a sensuous, rhythmic continuity for the driver. This effect results from following the natural contours of the land, using graceful and gradual horizontal and vertical transitions, and relating the alignment to permanent features such as rivers or mountains.

The greatest opportunities for influencing the horizontal and vertical alignments of a highway occur during the planning and preliminary engineering phases associated with a new-location facility. The designs of such facilities have the most dramatic effects on the natural and human environments through which they pass.

Important points to consider regarding horizontal and vertical alignments are that they should be consistent with the topography, preserve developed properties along the road, and incorporate community values. Superior alignments are those that follow the natural contours of the land and do not have any detrimental impact on aesthetic, scenic, historic, and cultural resources along the way. Construction costs may be reduced in many instances when less earthwork is needed, and resources are preserved. It is not always possible to avoid impacts on both the natural and human environments. Therefore, the superior alignments incorporate input from the community through a participatory design process.

When possible, the alignment should be designed to enhance attractive scenic views, such as rivers, rock formations, parks, historic sites, and outstanding buildings. The designation of certain highways as scenic byways recognizes the importance of preserving such features along our nation's roadways.

Equally as important as the facility's horizontal alignment is its vertical alignment. A number of factors influence the vertical alignment of a highway, including:

- Natural terrain
- Minimum stopping sight distance for the selected design speed
- Number of trucks and other heavy vehicles in the traffic stream
- Basic roadway cross section, such as two lanes versus multiple lanes
- Natural environmental factors, such as wetlands and historic, cultural, and community resources

There are numerous examples around this country of excellence in integration of the horizontal and vertical alignments of highways into their surroundings. Unfortunately, there are also examples of new or widened highways that have scarred a rural landscape or disrupted an established community. While these past actions cannot easily or inexpensively be rectified, future problems can be avoided by applying CSD principles outlined and the creative approaches detailed below.

4.4.8.2 Cross Section

Some of the most challenging aspects of highway design have to do with cross-section elements, which include the number of lanes, width of travel lanes and shoulder areas,

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type of drainage, and desirability of including sidewalks or bicycle/pedestrian paths as part of the project.

Considered as a single unit, all these cross-section elements define the highway ROW. The ROW can be described generally as the publicly owned parcel of land that encompasses all the various cross-section elements.

Some decisions about the cross section are made during project development, such as the capacity and number of lanes for the facility. Other decisions, such as functional classification, are made earlier in the process. Within these parameters, the Green Book guidelines recommend a range of values for the dimensions to use for cross-sectional elements. Deciding which elements to include and selecting the appropriate dimensions within these ranges is the role of the designer.

In selecting the appropriate cross-section elements and dimensions, designers need to consider a number of factors, including:

- Volume and composition (percentage of trucks, buses, and recreational vehicles) of the vehicular traffic expected to use the facility
- Likelihood that bicyclists and pedestrians will use the route
- Climatic conditions (such as the need to provide storage space for plowed snow)
- Presence of natural or human-made obstructions adjacent to the roadway (such as rock cliffs, large trees, wetlands, buildings, and power lines)
- Type and intensity of development along the section of highway being designed
- Safety of the users

The most appropriate design for a highway improvement is the one that balances the mobility needs of the people using the facility (motorists, pedestrians, or bicyclists) with the physical constraints of the corridor within which the facility is located.

4.4.9 Avoiding Impacts on the Natural and Human Environments

During the era of interstate construction from the 1950s to the 1980s, particularly, a number of instances of new highway construction had a devastating impact on communities and areas of environmental sensitivity. It is readily acknowledged that there will be some degree of physical impact on the surroundings associated with the construction of any new-location highway or major reconstruction or widening of an existing highway. From the perspective of horizontal and vertical alignment, however, much of this impact can and should be alleviated.

Again, CSD offers a solution. The impact on the surrounding environment can be minimized by careful attention to detail during the route location and preliminary design phases and a willingness of all concerned parties to work together toward a common goal. When horizontal and vertical alignments are designed separately from one another, unnecessarily large cuts and fills may be required, resulting in very dramatic and often visually undesirable changes to the natural landscape.

One way to ensure the most effective coordination of horizontal and vertical alignment is through the use of a multidisciplinary PMT during the planning and engineering phases of a project. The combined expertise of landscape architects, urban designers, structural

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engineers, and historic preservationists, in addition to civil engineers and highway designers, can result in superior highway improvement projects.

4.4.10 Restricted Right-of-Way

Many existing roads were not built to today's standards. These roads may be located in restricted ROW corridors that have scenic or historic resources adjacent to the roadway. Efforts should be made to avoid impacts on these resources when considering highway improvements.

CDS offers three potential solutions:

- Reconsider the design criteria classification and design speed of a particular section of highway. These are key decisions in defining the basic design parameters for an improvement of the facility. Lowering the design speed or changing the functional classification decreases the minimum width dimensions of the cross-sectional elements.
- Maintain the road in its existing condition.
- Designate the road as a rehabilitation, resurfacing, and restoration (3R) project. Design criteria are generally lower for 3R projects than for reconstruction projects.
- Seek design exceptions.

Whichever alternative is chosen, the designer should try to maintain consistency in the roadway cross section. If only a small stretch of highway is located within restricted ROW, it would be unsafe to narrow that stretch while maintaining a much higher roadway width before and after it.

4.4.11 Bridges and Other Major Structures

Bridges and other related major structures play an important role in defining the manner in which a highway affects the aesthetic, scenic, historic, and cultural resources of the corridor within which it is located. Indeed, some of the distinguishing features of a number of major cities are their bridges. When one thinks of San Francisco, the Golden Gate Bridge comes to mind. To be sure, smaller structures have a visual impact as well.

4.4.11.1 Geometrics of Bridge Design

The geometric criteria in the Green Book for new or replacement bridges deal primarily with the width of the bridge deck and its relationship to approach roadways. Early design coordination is important when establishing the width of a new or replacement bridge and in determining its horizontal and vertical alignment. Highway engineers, architects, and landscape architects, as well as members of the community, can provide input to help the bridge designer determine the appropriate geometric dimensions and overall appearance of the bridge. The Green Book presents a range of options for travel-way widths for bridges with a span of less than 90 ft, depending on the functional classification and ADT.

The Green Book recommends that the minimum clear width for new bridges be the same as the curb-to-curb width of the approach street. In addition to determining the travel-

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way width, a bridge designer must consider the need for pedestrian and non-vehicular traffic over the bridge and the most appropriate method of accommodating it. This could include a wide shoulder, a raised sidewalk, or both. If sidewalks are on the approach road, continuity of the sidewalk over the bridge is important.

For existing bridges that do not meet the criteria for travel-way width, the Green Book recognizes that those that tolerably meet the criteria may be retained. It identifies some of the factors in considering the retention of existing bridges, including "the aesthetic value and the historical significance attached to famous structures, covered bridges, and stone arches".[12] Because of this, AASHTO has criteria for minimum roadway widths and minimum structural capacities for bridges that are to remain in place. It is important to consider this option for each aesthetically and historically significant bridge on a case-by-case basis, before deciding to demolish and replace it.

4.4.11.2 Design Elements

In addition, designers must consider many design elements. Basically, bridges are viewed from two perspectives:

- Traveling over the bridge deck, the driver of a vehicle sees the travel-way, bridge railings, and view to either side.
- Crossing over another roadway, the driver can view water or land both on the side and underneath.

Bridge designers should keep in mind that these two perspectives may require consideration of additional aesthetic treatments for the bridge.

For the design of the bridge deck, the major components include the width of the travel-way and shoulders and pedestrian and other non-vehicular accommodations, as mentioned above. Other components include railings, lighting fixtures, and other design details. For the side of the bridge, the major components include the piers, the side fascia, abutments, and wing walls. In addition, the bridge railings and other fixtures selected for the top of the bridge play a design role for the side because they can be seen from below.

4.4.11.3 Compatible Design Scale

When rehabilitation of existing bridges is not feasible, a common concern of local residents is whether the proposed new structure will visually fit into the community. The CSD solution for designing a visually attractive and context-sensitive new bridge is to be flexible and to work with the community from the beginning to obtain public input. Professionals from other disciplines, such as architects, can also assist, especially if engaged early in the design of the structure. It is important to consider how use of the geometric criteria will affect the overall scale of the bridge and how that scale will relate the bridge to its surroundings.

[12] AASHTO, Green Book, p. 423.

CHAPTER 5

Development of a Public Involvement Program
[to be added]

CHAPTER 6

Techniques for Public Involvement

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CHAPTER 6
TECHNIQUES FOR PUBLIC INVOLVEMENT

This chapter is a reference guide for involving the public in project planning and decision-making.[1] Tools to facilitate public involvement are presented, as are guidelines for developing a public involvement plan. The guidelines include a sample annotated outline that can be adapted to different situations. Together, the tools and guidelines provide best management techniques for enlisting public participation.

6.1 TOOLS FOR PUBLIC INVOLVEMENT

There are two categories of tools to facilitate public involvement:

- Gathering and exchanging information. These tools are used to solicit the views and opinions of members of the community and to provide forums for the community, Iowa DOT, and resource agencies to discuss issues related to a proposed project or permit application.
- Disseminating information. These tools are used at public information meetings to distribute information about a proposed project or specific aspects, such as utility and railroad coordination, to interested agencies, businesses, individuals, and the affected community.

Both categories are discussed in this section.

6.1.1 Gathering and Exchanging Information

Several tools are available to gather and exchange information:

1. Community interviews
2. Focus groups
3. Door-to-door canvassing
4. Surveys and telephone polls
5. Telephone contacts
6. Telephone hotlines
7. On-scene information offices
8. Question and answer sessions
9. Information tables
10. Informal meetings with other stakeholders
11. Attendance at stakeholder meetings and functions
12. Availability sessions and open houses
13. Citizen advisory groups
14. Workshops
15. Project Web pages

[1] Information contained in this chapter has been adapted from two sources: U.S. Environmental Protection Agency, *Public Involvement in Environmental Permits, A Reference Guide*, EPA-500-R-00-007, August 2000, at http://www.epa.gov/permits, and U.S. Department of Transportation, Federal Highway Administration, *Public Involvement Techniques for Transportation Decision-Making*, FHWA-PD-96-031, September 1996, at http://www.fhwa.dot.gov/reports/pittd/cover.htm.

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These tools are described below in question and answer format.

6.1.1.1 Community Interviews

Q1. What are community interviews?

Community interviews are informal, face-to-face, or telephone interviews held with local residents, elected officials, community groups, and other individuals to acquire information on citizens' concerns and attitudes about a proposed project. Staff, public interest groups, or a third-party representative such as a contractor or community organization can conduct the interviews.

Q2. What is the purpose of community interviews?

Community interviews are a valuable source of opinions, expectations, and concerns regarding the development of a project, often providing insights and views not presented in the media. The interviews allow Iowa DOT to tailor activities to the needs of a community. The information obtained is typically used to assess the community's concerns and information needs, and to prepare a public participation plan that outlines a community-specific strategy for responding to the concerns identified in the interview process.

Q3. When are community interviews appropriate?

Community interviews are effective at the beginning of the planning process for a major project or before design work has begun. They should also be conducted before revising a public participation strategy because months or perhaps years may have elapsed since the first round of interviews and community concerns may have changed.

Community interviews are not necessarily needed in every community for every project. Routine projects may not require the interviews, but a project that is controversial or receives high levels of public interest is more likely to require them. Projects ranging between these situations may benefit from interviews that begin with a survey of community representatives and group leaders.

The number of community interviews conducted and the depth of the interviews depend on the level of community concern and involvement. If considerable interaction has already taken place between the community and Iowa DOT, only a few informal discussions may be needed to verify, update, or round out the information already available. The discussions can be in person or by telephone with selected, informed individuals who clearly represent the community.

Q4. How are community interviews conducted?

Potential individuals or groups to interview include local residents, elected officials, community groups, and any other individuals in the affected area.

Before the interview, the interviewer should briefly describe the proposed project and explain the purpose of the interview.

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At the beginning of the interview, the interviewer should explain the public participation process and ask the interviewees how they would like to be involved and informed of progress and future developments. The interviewer should also ask them to recommend convenient locations for setting up an information repository or holding public meetings.

The interviewer should gauge concerns based on:

- Need – Does the community believe that a problem exists or the proposed project is needed?
- Economic concerns – How does the community think the proposed project would affect the local economy and the economic well being of community residents?
- Credibility – Does the community have confidence in the ability of Iowa DOT and the proposed project to address their needs and concerns? What are the community's opinions of the public involvement process?
- Involvement – What groups or organizations in the community have shown an interest? How have interested community groups worked with Iowa DOT in the past? Have community concerns been considered or is there a trust factor to overcome?
- Media – Does the community believe media coverage accurately reflects the nature and intensity of their concerns?
- Number affected – How many households or businesses in the community perceive themselves as affected by the proposed project? Is the impact negative or positive?

During the interviews, the interviewer should look for perceptions of past public participation activities conducted in the community. Comments received will help develop an appropriate public participation strategy.

Finally, the interviewer should ask for the names and telephone numbers of other persons who may be interested in participating.

All comments should remain confidential. The interviewer should explain how the respondents' anonymity would be ensured. If interviewees feel uncomfortable sharing concerns and issues one-on-one, the interviewer should recommend other means of expressing their viewpoints, such as anonymous surveys or focus groups.

6.1.1.2 Focus Groups

Q1. What are focus groups?

Focus groups are small discussion groups led by a facilitator who draws out participants' reactions to an issue. The group is selected either randomly or to approximate the demographics of the community.

Q2. When are focus groups appropriate?

Focus groups are useful when there is a high degree of public interest in a project or process. The groups provide a quick means of feedback from a representative group and an opportunity to gain in-depth public reaction to a proposed project. They can be a good

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supplement to community interviews, especially if such group discussions will make some members of the public feel more comfortable. Some organizations use focus groups as a way of gathering information on community opinions.

Q3. How are focus groups selected and used?

Focus groups should be selected based on input from stakeholders and community leaders. Community interview techniques should be used to gain input from the focus group. Information obtained from the focus groups should be used to develop a public participation plan.

6.1.1.3 Door-to-Door Canvassing

Q1. What is door-to-door canvassing?

Door-to-door canvassing is used to collect and distribute information by calling on community members individually. It involves face-to-face contact to ensure that citizens' questions are answered directly. The canvassing demonstrates a commitment to public participation and is an effective method of gathering accurate, detailed information while determining the level of public concern.

Q2. When is door-to-door canvassing appropriate?

This technique is appropriate when:

- There is a high level of concern about the proposed project
- There is a need to notify citizens about an event or an upcoming permitting issue
- Communication is needed between a specific group of people for a specific purpose, such as getting signatures to allow access to properties adjacent to the facility
- The community has a low literacy rate, which renders written materials ineffective
- The area consists of a population whose primary language is not English, but it is important to pass information to the area

Q3. How is door-to-door canvassing conducted?

Canvassers ask questions about the proposed project, discuss concerns, and provide fact sheets or other materials. Interested citizens are informed that they can find out more about the project by signing up for mailing lists, attending upcoming public involvement events, or possibly visiting an Iowa DOT Web site.

Canvassers should generally try to let residents know when door-to-door calling will occur in their area, for example, by distributing a flyer. The notice should specify the time the canvassers will be in the neighborhood and explain the purpose of the canvassing program.

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Q4. What kinds of information do door-to-door canvassers provide?

Door-to-door canvassers should be trained to answer questions about the proposed project, the high points of the Can-Do development process, and the current state of the project. They also should be able to provide general information about possible effects associated with various activities.

Some questions, however, may need to be referred to technical staff (for example, highly technical questions concerning design, access, environmental, ROW, or Iowa DOT policies). If necessary, a translator should accompany the canvasser, and materials in languages other than English should be provided.

In addition, the canvassers should tell citizens when, how, and for what purpose they will be contacted again. For example, the canvassers may state that a public information meeting will occur in about 6 months and a public information meeting notice will be printed in the local newspaper).

All canvassers should have an official notice or letter from Iowa DOT to identify themselves. The canvasser must respect a citizen's right not to be contacted. Safety and security are crucial for citizens and canvassers. Do not conduct any door-to-door interview that endangers anyone.

6.1.1.4 Surveys and Telephone Polls

Q1. What are surveys and telephone polls?

Surveys and telephone polls are a means of gathering general impressions about specific activities or public participation events. Frequently, they are used when an anonymous method for submitting information is needed.

Public participation is a dialogue, and citizens need ways to provide feedback. Surveys and polls are designed to solicit specific types of feedback from a targeted audience, such as public opinion about a project, the effectiveness of public participation activities, or possible measures to improve distributed materials and public awareness.

Surveys can be oral or written, and taken in person or by mail. They can be distributed either to the entire community or to specific segments or representative samples of the community.

Q2. When are surveys and telephone polls appropriate?

Surveys and telephone polls are used when specific information is sought from a targeted community or audience, or as a method of giving anonymous feedback during the public involvement process. They can be used during a community assessment to gauge public sentiment about constructing or expanding a facility. They can serve to complement direct community interviews, especially during major, controversial projects.

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Iowa DOT and public interest groups can also use surveys and telephone polls to find out if citizens are receiving enough information about the project and are being reached by public notices or other outreach methods.

Q3. How are surveys and telephone polls conducted?

Written surveys can be distributed after a meeting or by hand or by mail to community members' homes. Surveys can be distributed to a representative sample of the community or, in some cases, to all homes and businesses within a certain distance of the proposed project to blanket the community.

Telephone polls are generally conducted with a random sample, a representative sample, or a targeted segment of the community. Permitting agencies can contact community leaders and local officials to determine the demographics of the area.

The wording of survey questions should not influence how the questions are answered. If community residents believe the survey is biased, they should bring their concerns to the attention of the Iowa DOT contact or whoever is conducting the survey.

6.1.1.5 Telephone Contacts

Q1. What are telephone contacts?

Telephone contacts are a quick method of informing key persons about activities, monitoring shifts in community concerns, gathering information about the community, and providing updates.

Q2. When are telephone contacts appropriate?

Telephone contacts are usually made to arrange or conduct community interviews, develop mailing lists, and arrange for other public participation activities such as news briefings, informal meetings, and presentations. This method of obtaining information is a relatively inexpensive and expedient method of acquiring initial information about a community.

Telephone contacts are useful:

- In the early stages of planning, to identify key officials, citizens, and other stakeholders who have a high interest in the activity
- To gather information when face-to-face community interviews are not possible
- When new and time-sensitive material becomes available
- When there is a high level of community interest and it is important to keep key players informed

If individuals feel uncomfortable discussing their concerns or perceptions about the project over the telephone, they should be encouraged to find other means of expressing their viewpoint, such as attending public meetings or responding to notices.

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6.1.1.6 Telephone Hotlines

Q1. What are telephone hotlines?

Telephone hotlines are toll-free or local telephone numbers people can call to ask questions and obtain information about the project or process. Hotlines can provide interested persons with a relatively quick way of expressing their concerns directly and obtaining answers to their questions. Some hotlines are set up so that callers can order documents.

Q2. When are telephone hotlines appropriate?

Telephone hotlines can be used when:

- Community interest or concern is moderate to high
- Unexpected events occur or a situation is changing rapidly
- A high potential for complaints exists (for example, regarding traffic congestion, dust, or noise)
- Literacy rates are low and written information must be supplemented
- The community is isolated and has little opportunity for face-to-face contact with project staff (for example, rural areas or areas far from Iowa DOT district offices)

Q3. How are telephone hotlines operated?

Telephone hotlines can either be installed as a semi-permanent fixture for use throughout planning, design, and construction, or as a temporary measure when major community feedback is desired.

Each hotline should be staffed by at least one Iowa DOT staff member. If no one is available to answer calls throughout the day, the agency might consider installing an answering machine directing citizens to leave their name, number, and brief statement of concern, and informing them that someone will return their call promptly.

A voice mail system can also be used to provide information on commonly requested information such as meeting dates and locations and the permit status. Permitting agencies should check the answering machine for messages at least once a day. If the level of concern is high, messages should be checked more frequently.

Q4. How are telephone hotlines advertised?

The availability of new telephone hotlines should be publicized in press releases to local newspapers, radio stations, and television stations, as well as in fact sheets, public notices, and other written materials.

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6.1.1.7 On-Site Information Offices

Q1. What are on-site information offices?

On-site information offices are typically a trailer, small building, or office space located near the project or at a location that is convenient and accessible to the community. Usually, such offices are staffed by full-time or part-time personnel who respond to citizens' inquiries and prepare information releases. The on-site staff could conduct meetings and question and answer sessions to inform citizens about the status of the permitting process and answer any questions or concerns.

Q2. What is the purpose of on-site information offices?

On-site information offices help ensure citizens are adequately informed about project activities and their concerns are addressed in a reasonable timeframe.

Q3. When are on-site information offices appropriate?

Expenses for operating on-site information offices can be high. Therefore, on-site information offices should be used when:

- Community interest or concern is high
- The project or related processes are complex
- Activities (such as traffic patterns) may disrupt the community
- The area near the activity is densely populated

Q4. What services should on-site information offices provide?

On-site information offices should be established in convenient, accessible locations for the community. A telephone and answering machine should be installed to respond to citizens' inquiries and information requests. Regular business hours should be established, in addition to some weekend and evening hours.

On-site information offices should contain the same materials found in an information repository. If there is a high level of public interest, Iowa DOT may locate the information repository at the on-site office. A copy machine should be available for citizens to make copies of documents for a small charge.

Q5. How are on-site offices advertised?

The address and telephone number of the on-site office and the hours of operation should be provided in a public notice in a local newspaper.

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6.1.1.8 Question and Answer Sessions

Q1. What are question and answer (Q&A) sessions?

Q question and answer (Q&A) sessions are a means of direct communication between Iowa DOT and citizens. Representatives are made available after an event such as a presentation, briefing, exhibit, or meeting to answer additional questions.

Q&A sessions are a useful, easy, and inexpensive way of providing one-on-one explanations in an informal or formal setting. They bring Iowa DOT staff and interested citizens together to discuss questions and concerns about the Iowa DOT project.

Q2. When are Q&A sessions appropriate?

Q&A sessions are useful:

- After an event when participants need more information
- When citizens feel uncomfortable discussing their questions or concerns during a large event
- After an event to clarify any issues or conflicts that were skimmed over to maintain the flow of events

Since Q&A sessions typically follow other activities, they are a convenient and effective way to answer citizens' questions regarding project specifics and the development process in general.

Q3. How should Q&A sessions be conducted?

An agency representative should announce that someone would be available to answer questions at a designated area immediately following the presentation or other event. The designated person should be knowledgeable about the project and the development process. Responses to questions should be provided in a straightforward manner and as quickly as possible.

6.1.1.9 Information Tables

Q1. What are information tables?

Information tables are a simple public participation tool that can be used by staff to interact one-on-one with interested citizens. They consist of a table or booth set up at a meeting, hearing, or other event (for example, a community fair or civic gathering). The information tables are staffed by at least one person who is available to answer questions about the project. Pamphlets, fact sheets, brochures, newsletters, or project reports are available on the tables, along with a sign-up sheet for interested people to add their names to the mailing list.

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Q2. When are information tables appropriate?

An information table is useful when:

- Iowa DOT wants community feedback after a public event
- An issue or activity has raised significant public interest or technical issues raise questions among the public
- Names need to be compiled for the mailing list

Information tables are a convenient way for Iowa DOT to obtain community feedback on permitting activities. They provide a comfortable atmosphere for the public to approach project staff and ask questions. They are also a convenient place for citizens to answer questionnaires and surveys, and obtain the name and telephone number of people they can contact for additional information. Exhibits and diagrams can also be displayed at information tables to help explain the project development process or specific technical issues.

Information tables are often made available at local events that will attract a significant portion of the community. Citizens should be encouraged to contact Iowa DOT to set up an information table if they know of a public event that will be well attended by community members.

6.1.1.10 Informal Meetings with Stakeholders

Q1. What are informal meetings with stakeholders?

These are meetings that allow interested citizens and local officials to discuss issues and concerns in an informal, comfortable setting such as a resident's home, public library meeting room, community center, church hall, or other local meeting place.

Informal meetings actively promote public participation. They offer citizens, resource agency staff, and elected officials the opportunity to increase their familiarity with the project and awareness of each other's viewpoints. The meetings can be held to discuss project or permitting activities by Iowa DOT, the resource agency, or an interested community group.

Q2. What are the benefits of these informal meetings?

Iowa DOT staff receive first-hand information from interested community members, special interest groups, and elected officials while citizens have the opportunity to ask questions and explore topics of interest regarding the permitting process.

The primary benefit of informal meetings is that they allow two-way interaction between citizens, local officials, and Iowa DOT. Citizens not only learn about developments but also are able to voice their perceptions. Informal meetings add a personal dimension to what might otherwise be treated as a purely technical problem.

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Q3. When are informal meetings appropriate?

Informal meetings are most commonly held when:

- There is a wide range of knowledge among community members
- The level of tension is high and large meetings may not be appropriate
- Iowa DOT wants to learn more about the community and their perceptions of the activity
- Groups want to discuss specific issues in which the community as a whole is not interested

Q4. How should informal meetings be organized?

Informal meetings can be arranged by Iowa DOT, the permitting agency, or a citizen- or community-based group. If a community group decides to host a meeting, the group should speak with Iowa DOT contacts prior to the event to discuss what it wants to accomplish. Meeting organizers may wish to enlist a neutral, third-party dispute resolution professional to facilitate the meeting.

To maximize effectiveness, informal meetings are generally kept small (for example, five to 20 people). Additional meetings can be scheduled if some people are unable to attend because of limited space.

The meetings should be scheduled in convenient locations and should not conflict with other public meetings (such as town council meetings), holidays, or other special occasions.

Q5. How should an informal meeting be conducted?

The meeting should open with a brief presentation of the permitting process and methods for involving the community in decision-making. The opening remarks should be kept to a minimum to allow maximum opportunity for open discussion.

Possible discussion topics include:

- The project scope and the project purpose and need
- The time line and status of project planning and development
- Factors that might speed up or delay the process
- The way in which community concerns are considered in making project decisions and environmental permit actions

Iowa DOT contacts should be identified so that interested citizens can direct further questions or voice new ideas or suggestions after the meeting. Iowa DOT should respond promptly to any unanswered questions.

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6.1.1.11 Attending Stakeholders' Meetings and Functions

Q1. What is the purpose of attending stakeholders' meetings and functions?

Attending meetings or functions held by stakeholders can provide insight into other opinions and concerns. Local governments, environmental organizations, and religious and civic groups may all hold meetings or other gatherings during the planning and development process. Some may be required by regulation, and others may be informational meetings or discussions of important issues. Iowa DOT staff can learn more about the views of other stakeholders by attending their meetings. Iowa DOT staff can also join important discussions and provide information. Some groups may invite Iowa DOT to give a presentation or briefing.

Q2. What can Iowa DOT do to promote stakeholder meetings?

Iowa DOT should inform the host organization if it decides to attend stakeholder meetings. If Iowa DOT representatives choose to identify themselves at the meeting, they should be prepared to answer questions.

In addition, Iowa DOT can allow other groups or individuals to attend meetings that it sponsors. Iowa DOT representatives should clearly state which meetings are open to others, provide advanced notice of their upcoming meetings, and invite groups to make presentations.

6.1.1.12 Availability Sessions and Open Houses

Q1. What are availability sessions and open houses?

Availability sessions and open houses are informal meetings in a public location where people can talk to involved officials on a one-to-one basis. These meetings are usually scheduled during the evening at a local public library, school, or meeting room. The meetings allow citizens to ask questions and express concerns directly to project staff. Availability sessions and open houses can also be set up to allow informal conversations among representatives of all interested organizations.

Q2. What are the benefits of availability sessions and open houses?

The one-to-one conversations during availability sessions or open houses help establish rapport between citizens and project staff. The informal, neutral setting of availability sessions and open houses keeps officials and citizens relaxed, thereby promoting communication. Also, this type of gathering is helpful in accommodating individual schedules.

Citizens can find out more about all sides of an issue through conversations with elected officials, resource agency staff, Iowa DOT staff, and representatives of involved interest groups and civic organizations.

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Q3. When are availability sessions and open houses appropriate?

Availability sessions and open houses are most appropriate when:

- Scheduling meetings is difficult because of community members' schedules
- New information is available on several different technical or regulatory issues that would make explaining it in its entirety too long for a more formal meeting
- Community members have widely varying interests or levels of knowledge
- Larger crowds will make it difficult for certain citizens to raise questions

Availability sessions and open houses require significant preparation and are typically held only when community interest in the site is significant.

Q4. What information is available at these meetings?

Knowledgeable staff should be present to respond to questions and concerns. Handouts and fact sheets containing the name and telephone number of the person interested citizens can contact for additional information after the event should be made available.

Q5. How can interested parties find out about availability sessions and open houses?

Iowa DOT should notify everyone on its mailing list. Interested persons should receive an announcement for the availability session or open house at least 2 weeks prior to the event. In addition, announcements should be included in local newspapers, on television and radio stations, and in community newsletters.

6.1.1.13 Citizen Advisory Groups

Q1. What are citizen advisory groups?

Citizen advisory groups (CAGs) come in many different forms and have different responsibilities and roles. CAGs are generally composed of stakeholders who meet routinely to discuss issues involving a particular project. They provide a public forum for representatives of diverse community interests to present and discuss their needs and concerns with Iowa DOT or permitting agencies.

CAGs can increase active community participation in decision-making and provide a voice for affected community members and groups. They promote direct, two-way communication among the community, Iowa DOT, and permitting agencies.

Q2. How and when are CAGs developed?

CAGs can be developed based on individual situations. Community organizations may form CAGs to provide an official voice for the community. Iowa DOT may form CAGs of affected community members to provide informal or formal advice. A permitting agency may form CAGs that include stakeholders from Iowa DOT staff and the community as well as its own representatives.

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CAG size will also vary because the size of a group can have an impact on its effectiveness. For example, too large a group can inhibit efficiency in working and reaching a consensus on issues, whereas too small a group may not be adequate to represent diverse community concerns.

CAGs can be formed at any point in the project development process but are most effective when formed in the early stages. Generally, the earlier they are formed, the more their members can participate in and affect decision-making. Before forming new CAGs, however, communities should investigate whether other groups exist that are addressing similar issues.

Q3. What factors are to be considered when forming CAGs?

Having a CAG does not necessarily mean there will be universal agreement or no controversy during the process. Also, community trust in CAGs can vary widely depending on their structure (that is, who the members are and who sponsors or hires the facilitators) and at what point they are introduced in the process. If Iowa DOT or the resource agencies make a decision that differs significantly from the stated preferences of a CAG, the decision needs to be explained.

CAGs can be time consuming and expensive. They may not be appropriate in every situation. When forming CAGs, consider:

- The level of community interest and concern about the project or development process
- The community interest in forming a CAG
- The existence of groups with competing agendas in the community
- Any environmental justice issues or concerns regarding the project
- The history of community involvement with Iowa DOT or with environmental issues in general
- The working relationship between Iowa DOT, the community, and the resource agencies

If a group decides to organize a CAG, it should be encouraged to coordinate with Iowa DOT and the resource agency contacts. Contacts should be helpful resources that are familiar with the project development process. If Iowa DOT forms a CAG, it should announce the existence of the CAG in a public notice, at a public meeting, or in a news release.

6.1.1.14 Workshops

Q1. What are workshops?

Workshops are seminars or gatherings of small groups of people (usually between 10 and 30), typically led by one or two specialists with technical expertise in a specific area. Experts may be invited to explain issues and offer possible remedies for problems.

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Q2. What is the purpose of workshops?

Workshops foster two-way communication between members of the community and Iowa DOT. They have proven successful in familiarizing citizens with technical terms and concepts prior to a formal public meeting. Workshops may help to improve public understanding of the project development process and may prevent or correct misconceptions. Workshops also help to identify citizens' concerns and encourage public input.

Q3. When and where are workshops conducted?

Workshops are generally conducted before formal public hearings or during public comment periods to help interested citizens develop and present testimony. A convenient location and time should be chosen for the workshop.

Q4. When are workshops appropriate?

Workshops are appropriate when:

- The project or development process needs to be explained to community members interested in participating in the process
- Specific topics need to be discussed in detail, especially complex technical or ROW details
- Technical material needs to be explained and feedback from the community is important to make sure that citizens understand and have some level of buy-in.

Q5. How is the public notified of workshops?

In addition to sending notice of the time and location to members on the mailing list, posters should be distributed around the area well in advance of the event. Notification of the workshop should also be printed in a local newspaper.

Invitations and registration forms should be sent to concerned community citizens. Each form should provide for multiple registrations to accommodate friends and others who also might be interested in the workshop.

6.1.1.15 Project Web Sites

Iowa DOT could also develop a Web site for the project.

Q. What could Web sites provide?

Web sites have nearly unlimited possibilities. For example, they can be used to provide commonly requested information such as meeting dates and locations, electronic copies of the availability of telephone hotlines, news releases to local newspapers, fact sheets, publications, and public notices. Web sites can include a place for individuals to enter a message or email a request directly to Iowa DOT.

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6.1.2 Disseminating Information

Several tools are available to disseminate information:

1. Language translations
2. Project newsletters and reports
3. Introductory notices
4. Exhibits
5. Briefings
6. Presentations
7. Project tours
8. News releases and press kits
9. News conferences
10. Independent technical experts
11. Information booklets or brochures

These tools are described below in question and answer format.

6.1.2.1 Language Translations

Q1. What do language translations include?

Language translations include multilingual fact sheets, notices, and other resources to provide equal access to information. Oral translations and signing are also considerations for public meetings, hearings, and news conferences.

Q2. When are translations appropriate?

No regulatory requirements currently exist for translations, but consideration should be given to using translation when a portion of the community does not speak English as its first language or includes hearing-impaired individuals. The need for translation is usually determined during the assessment of community needs, through community interviews, and community demographic databases. Oral translations and signing are suitable for public meetings, hearings and news conferences, or when Iowa DOT needs to reach out publicly and communicate with the community.

Q3. What purpose do language translations serve?

Written translations, oral translations, and signing are a means of informing all community members about activities. They provide non-English speakers and the hearing impaired with a greater opportunity to be active in the public participation and decision-making process.

6.1.2.2 Project Newsletters and Reports

Q1. What is the purpose of project newsletters and reports?

Project newsletters and reports are useful ways to share important information with affected members of the community or other interested persons. Project reports present detailed and highly technical information, whereas newsletters use a more reader-friendly tone. In addition to keeping citizens updated on project activities, newsletters can provide brief summaries of technical reports or studies as well as the names of persons to contact for additional information.

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Q2. What factors are to be considered when using newsletters and reports?

To ensure that newsletters are distributed to all stakeholders and interested persons, it is important to maintain an updated mailing list. Also, Iowa DOT should use availability sessions, open houses, or informal meetings to further explain the results of detailed reports and studies.

6.1.2.3 Introductory Notices

Q1. What are introductory notices and what do they include?

Introductory notices can be presented as a public notice, fact sheet, or flier distributed to an areawide or targeted mailing list. They should explain, as clearly as possible, the proposed action and development process. Technical terms, jargon, and undefined acronyms should be avoided. The notices should identify an individual to contact for answers to additional general or specific questions about the project or process. The name, address, and phone number of that contact person should be provided.

Q2. When are introductory notices appropriate?

Notices are used when it is believed the community knows little or nothing about the proposed project or development process or to notify the public about how to become involved in the permitting process.

While there are no regulatory requirements for introductory notices, Iowa DOT may want to provide them when an environmental document or 404 permit application is submitted to explain the permitting process and public participation opportunities.

In addition, introductory notices are a way of building Iowa DOT's mailing list. For instance, a return slip that the public can complete and return to be placed on a mailing list can be included with the notice. The return slip can also be used to ask questions about the proposed project or Can-Do development process.

6.1.2.4 Exhibits

Q1. What are exhibits?

Exhibits are visuals such as diagrams, photographs, or computer displays accompanied by a brief description or introduction. They can be a creative and informative way of explaining technical and complex projects.

Q2. When are exhibits appropriate?

Exhibits work well with public meetings, hearings, and availability sessions and open houses. Agencies also can use surveys or comment cards at the display to encourage citizens to comment or request additional information. When used in conjunction with other activities, exhibits help to enhance the overall understanding and interest in a program.

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Q3. What are the benefits of using an exhibit?

Exhibits help make technical information more understandable. Because they are generally visually appealing, exhibits tend to stimulate public interest in a project. Unlike public notices and fact sheets, which may be glanced over quickly and easily forgotten, exhibits have visual impact and can leave a lasting impression.

6.1.2.5 Briefings

Q1. What purpose do briefings serve?

Briefings share important information, such as a change in status or new technological information, with key stakeholders before the information is released to the media and general public. With the update provided by the briefings, stakeholders such as elected officials, resource agencies, and key Iowa DOT staff are better prepared to answer questions from their constituents when the information becomes public. Since briefings are usually offered to small, select groups, they allow for the exchange of stakeholder information and concerns. They can be highly useful in initiating or maintaining rapport with key stakeholders.

Briefings may be held to clear up visible stakeholder concerns before hosting a larger, more publicly visible event. Thus, briefings generally precede news conferences, press releases, or meetings. Briefings are particularly important if an upcoming action might result in political controversy.

6.1.2.6 Presentations

Q1. What form can presentations take?

Presentations can take the form of speeches, panel discussions, videotapes, or slide shows for local clubs, civic or church organizations, school classes, or concerned citizens' groups.

Q2. What purpose do presentations serve?

Presentations describe current activities while helping to improve public understanding of the issues associated with a project. They can be helpful in reaching a large audience during any stage of the development process.

Q3. When are presentations appropriate?

Presentations are useful:

- When there is moderate public interest in a project
- When it is practical to integrate short presentations into meetings on other subjects
- When a major milestone in the development process is reached

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There are no regulatory requirements for presentations. Iowa DOT may schedule presentations by itself or at the request of a community-based contact. When citizens request a presentation during one of their regularly scheduled meetings, Iowa DOT should provide an agenda or timeframe for the presentation. Ample time should be allowed for group members to ask questions and voice their opinions at the conclusion of the delivery.

Visual aids, such as slides and exhibits, should be included to stimulate public interest and understanding. Handouts, such as fact sheets or news releases, should also be distributed so attendees have something to refer to after the presentation. At the conclusion of the presentation, the presenter should provide the name and telephone number of the person to contact for further information.

6.1.2.7 Project Tours

Q1. What are project tours?

Project tours are scheduled trips to the project site during which technical and public outreach staff answer questions.

Q2. What purpose do project tours serve?

Project tours familiarize the media, local officials, and citizens with existing conditions or proposed enhancements and the individuals involved with the project. The tours increase the understanding of the issues, project development process, and the proposed project, and are a means of identifying key contact individuals. The tours are particularly helpful when viewing activities can help increase public understanding or decrease concern. Often, tours help to reconcile differences among stakeholders.

Q3. What factors are to be considered when planning project tours?

Project tours require considerable time to arrange, prepare, and coordinate. Citizens' groups may be most successful in participating in tours when good relations have previously been established.

Tours should be scheduled when it is practical and safe to have visitors at the site or on the project. Safety guidelines cannot be violated during the tour. Insurance requirements for liability for injury may make tours impossible. Citizens' groups should recognize these limitations and not demand access to areas unsafe for the general public.

When organizing a tour:

- Determine objectives or results of the tour. Possible objectives include observing existing conditions driving a project, viewing a functional or aesthetic feature being considered for a project, and meeting with responsible program delivery offices in the Central Complex and the district.
- Plan the tour ahead of time, including tour routes and availability of personnel to answer questions. Iowa DOT and citizens' groups should work together to arrange a tour that presents appropriate information fairly and provides an opportunity for the community to learn about the project, whether it is proposed

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or under construction. Proper planning significantly improves the quality of the tour.

- Consider an alternative plan if a tour cannot be arranged because of construction or uncompleted status of the facility. Instead, interested community members may benefit from touring a facility where operations are similar operations or similar technologies have been applied. A tour of such a facility may give a clearer perception of what to expect at the local site.
- Develop a list of individuals who have expressed interest in the project and might wish to participate in a tour, such as:
  - Individual citizens or nearby residents who have concerns about the project or particular issues
  - Representatives of public-interest or environmental groups
  - Interested local officials and regulators
  - Representatives of local citizen or service groups
  - Representatives of local newspapers, television stations, and radio stations
- Identify the maximum number of participants. Keep the group small so that all who wish to ask questions may do so. Schedule additional tours as needed.
- Involve tour participants. For example, include a hands-on demonstration of how to identify a wetland or observe the effect of a noise wall (in terms of aesthetics and noise levels).
- Anticipate questions. Have someone available to answer technical questions in non-technical terms.

6.1.2.8 News Releases and Press Kits

Q1. What are news releases and press kits?

News releases and press kits are communication tools for disseminating important information about a project or process. They can be used by all participants in the process, including citizens' groups, facilities, and permitting agencies.

News releases are statements sent to the news media (such as newspapers, television stations, and radio stations), generally to publicize progress or key milestones in the permitting process. When carried by the media, news releases can effectively and quickly disseminate information to large numbers of people. They can also be used to announce public meetings, report the results of public meetings or studies, and describe how citizens' concerns were considered in the permit decision or corrective action.

Press kits consist of a packet of relevant information distributed to reporters summarizing key information. Typically, a press kit is a folder with pockets for short summaries of the project, technical studies, newsletters, press releases, and other background materials.

Q2. When are news releases and press kits appropriate?

News releases and press kits are useful when:

- Significant findings are made at the site, during the project development process, or after a study.

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- Program milestones are reached or schedules are delayed.
- Public or media interest is growing, or a new policy stance has been adopted.
- There is a need to increase public interest in a project.

Q3. Who issues news releases and press kits?

News releases and press kits can be complementary activities, although either one can be issued separately. They can be issued by Iowa DOT, the permitting agency, or the community. Also, citizens' groups may want to issue their own news releases or press kits if their organization has sponsored or conducted a study or event that directly relates to the project. A news release should not be issued at times when it may be difficult to get in touch with responsible officials (for example, Friday afternoons or the day before a holiday).

Q4. How are news releases and press kits used?

Groups most likely to use news releases and press kits include organizations that sponsor community newsletters, bulletin boards, or other public information media.

News releases to the local media can reach a large audience quickly and inexpensively. Press kits allow reporters to put the issues in context. If a reporter is trying to meet a deadline and cannot contact Iowa DOT, he or she can turn to the press kit as an authoritative source of information. If the name, address, and phone number of a contact person is included, reporters can obtain answers to their questions about the information in the release.

Because news releases must be brief, they often exclude details of interest to the public. News releases should therefore be used in conjunction with other methods of communication that allow more detailed information. Draft news releases are internal working documents only and should not be distributed to the general public.

Q5. What are some guidelines for preparing news releases and press kits?

To prepare news releases and press kits:

- Consult a person who regularly works with the local media, such as a public affairs specialist. The Iowa DOT Office of Media & Marketing Services will ensure adherence to internal policies on media relations. Iowa DOT's media specialist can help draft the news release and provide other helpful suggestions about the release and the materials for the press kit.
- Identify the relevant local and regional newspapers and broadcast media, and determine their deadlines. Get to know the editor or reporter who might cover the issue. Determine what information will be useful to them.
- Contact related organizations to ensure coordination. For instance, other groups may be working together on a citywide issue. Ensure that all facts are correct and procedures are coordinated among groups before releasing any statement or other materials. Consider discussing the news release with interested elected officials, resource agency staff, and local citizens groups, if appropriate.

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- Select the information to be communicated. Do not use news releases as a vehicle for transmitting sensitive information. Avoid frequent use of news releases to announce smaller actions, which could reduce the impact of more significant activities.
- Write and organize the news release clearly. Place the most important and newsworthy elements at the front, and additional information in descending order of importance. If presenting study findings or other technical information, use understandable terms and simple language: avoid professional jargon, overly technical words, and undefined acronyms. Use supporting paragraphs to elaborate on other pertinent information. Include any important qualifying information (for example, the reliability of numbers or risk factors).
- Keep news releases brief, typically one page long. Limit them to essential facts and issues.
- Use press kits to elaborate on the information in the news releases. Include basic information such as the purpose and need statement, goals, and organization activities. Also include background reports or studies if useful.
- Identify who is issuing the news release by including:
  - The name and address of the organization in the letterhead
  - The release date and time ("For Immediate Release" or "Please Observe Embargo Until . . . ")
  - The name and telephone number of the contact person for further information
  - A headline summarizing the information in the release
- In some cases, send copies of news releases and press kits to interested stakeholders at the same time as submitting them to the news media. Coordinate with the public affairs specialist to determine the appropriateness.

6.1.2.9 News Conferences

Q1. What is the purpose of news conferences?

News conferences provide a major public forum for announcing plans, findings, policies, and other developments. They are an efficient way to reach a large audience in a short period of time.

Q2. Who is the target audience?

While news conferences are information sessions or briefings held for representatives of the news media, they may also be open to the general public. News conferences provide all interested local media and members of the public with accurate information concerning important developments or processes.

Q3. When are news conferences appropriate?

News conferences are useful when time-sensitive information needs to reach the media and the public, but a news release may not be able to address key issues for the community.

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Q4. What factors are to be considered for news conferences?

News conferences should be coordinated through the Iowa DOT Office of Media & Marketing Services. In addition to making logistical arrangements, the Office can help notify members of the local and regional media and any interested local officials of the time, location, and topics of the conference.

During the conference, an Iowa DOT representative should present a short, official statement, both written and spoken, about developments and findings, followed by a question and answer period. Therefore, the staff conducting the news conference should be well prepared to answer questions.

News conferences are often supplemented with fact sheets or news releases so that citizens can refer to them later for technical information.

6.1.2.10 Independent Technical Experts

Q1. When is the use of independent technical experts appropriate?

Under some circumstances, a community may require impartial independent technical assistance or verification to ensure unbiased, informed opinions and information. For example, the community may mistrust the information provided by Iowa DOT.

Q2. What are some possible results of using independent technical experts?

Many case studies report success when grants are awarded to allow a community to hire independent technical consultants. Success is attributed to:

- Establishing technical credibility to the same degree as that of other stakeholders
- Decreasing frustration levels, because consultants can translate community quality-of-life concerns into terms commonly used for siting or demographic issues

6.1.2.11 Information Booklets and Brochures

Q1. What purpose do information booklets or brochures serve?

Information booklets or brochures are additional ways of providing information for identifying potential locations or alignments and involving neighboring communities in the site selection and development process. The booklets or brochures may serve as aids to local groups and government agencies to help determine the character of a community (such as the cultural composition, concerns, or lifestyles). They offer creative mechanisms to involve and work effectively with neighboring communities in addressing quality-of-life concerns.

Q2. What kinds of information can the booklets and brochures provide?

Some booklets discuss land use, setback distances, access locations, and other important factors to consider before or during selection of the preferred alignment. Others address quality-of-life issues of concern to communities near potential or existing highway

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facilities. These booklets may also discuss the incentives, opportunities, and processes of doing more than what is required in the regulations, by establishing partnerships, and promoting constructive dialogue with communities.

6.2 GUIDELINES FOR PUBLIC INVOLVEMENT PLANS

A public involvement plan (plan) is a project-specific set of actions to enable Iowa DOT to work effectively with the affected community and resource agencies for permit applications. The purpose of the plan is to identify public concerns and then use existing requirements as a framework for meaningful public input in permitting decisions.

The following guidelines for building an effective public involvement plan are based on current best practices and are intended solely as recommendations. Two additional resources can supplement these guidelines and should be reviewed when developing a public involvement plan:

- The National Environmental Justice Action Council has developed *The Model Plan for Public Participation*, which includes core values and a checklist.[14]
- The U.S. Environmental Protection Agency (EPA) has developed a *Draft Public Involvement Policy* to guide public officials who manage and conduct EPA programs. This policy provides reasonable and effective means of involving the public in program decisions.[15]

Both of these documents have a wider focus than strictly permitting programs but still are useful tools.

6.2.1 Preparation

Some basic research should be conducted before starting to write the plan. Interviews with local officials and community leaders can be an effective way of gathering information on what to address in the plan and how to implement it effectively. The *LandView* database developed by EPA, the U.S. Census Bureau, the U.S. Geological Survey, and the National Oceanic and Atmospheric Administration[16], and EPA's *EnviroFacts*[17] can provide demographic information, including the potential need to translate the plan or future outreach materials for local residents. Also, researching local newspaper archives to find past articles, editorials, or letters to the editor can give historical perspective on the political and public action groups and the media's treatment of Iowa DOT in the past.

6.2.2 The Audience

The plan initially focuses on requirements Iowa DOT needs to meet. However, the plan can also serve as a way of communicating and documenting the actions that all interested

[14] EPA-300-K-00-001 (originally published as EPA-300-K-96-003), February 2000; see http://www.epa.gov/oeca/oej/nejac/pdf/modelbk.pdf.
[15] EPA, Draft Public Involvement Policy, FRL-6923-9 (originally EPA's 1981 Policy on Public Participation); see http://www.epa.gov/stakeholders/policy.htm.
[16] EPA, U.S. Census Bureau, U.S. Geological Survey, National Oceanic and Atmospheric Administration, *LandView IV*, DVD-ROM, November 2000; see http://landview.census.gov.
[17] EPA, Envirofacts; see http://www.epa.gov/enviro.

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parties may undertake. Therefore, it is advisable to write the plan so that it can be readily placed in an information repository for any interested citizen to read.

The plan should unmistakably be by and from Iowa DOT, rather than some third party. It should be on Iowa DOT letterhead, with a cover sheet, and should state what Iowa DOT will do, rather than offer advice on what it should do.

The plan should identify the issues of concern for that community. If one project affects multiple communities, each with different demographics and concerns, the plan needs to identify each community and address its issues independently. Also, public involvement plans gather more support with all interested parties when specific deadlines are established.

Names, addresses, or phone numbers of private citizens consulted during the community interviews should not appear in the plan. There should be no way to attribute any information or comments to any specific private citizen. Leaders of local civic clubs, such as the chamber of commerce, are considered private citizens and should not be identified. However, local officials interviewed in their official capacity should be identified in the list of contacts, and their comments may be attributed. This is also true for any representatives of resource agencies interviewed in their official capacity.

6.2.3 Distribution

The Iowa DOT district is to complete the following outline and provide a copy of it to each individual listed in Appendix A, to each Project Management Team (PMT) member listed in Appendix C, and to Iowa DOT Engineering Bureau's scheduling engineer.

6.2.4 Annotated Outline for a Public Involvement Plan

I. Overview

- A. Purpose of the Plan
- B. Distinctive Features of the Plan
- C. Special Characteristics of the Community

Part I should be only a few paragraphs long. This is an opportunity to localize the generic goals of public participation by identifying specific objectives and any special circumstances this plan addresses.

II. The Project

- A. Purpose and Need
- B. Project Description
- C. Geography
  1. Project Location
  2. Site Maps
     a. Location within the State
     b. Location within the Community
     c. Proximity to Elements of Concern
  3. Project Relationship
     a. To Homes
     b. To Businesses
     c. To Schools

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   d. To Playgrounds, Parks, and Public Lands
   e. To Watersheds (Lakes and Streams)

D. Technical Details (examples)
   1. Access Control
   2. Average Daily Traffic
   3. Applicable Design Standards
   4. Special Environmental Considerations
   5. Other

E. Outline of the Can-Do Process

Part II should also be relatively short. Its purpose is to set the stage and give readers sufficient information to be generally familiar with the project.

III. Community Background

A. Community Profile (developed by researching the local press)
B. Relevant Demographics
C. Chronology of Proposed Public Involvement
D. Key Community Concerns
   1. Analysis of Major Public Concerns
   2. Use of the Public Involvement Process to Address Concerns

Part III can range from three to seven pages, or more as needed. This section identifies the context and community perceptions of Iowa DOT's development process events and the need for the project. It can draw heavily from community interviews and database demographics. It also addresses the need for translation services during the planning and development process. These services include translation into the native language of non-English-speaking residents and signing for the hearing impaired.

IV. Public Involvement Activities and Timing

A. Activities to Be Conducted
   1. Required
   2. Supplemental
B. Sample Time Line for Activities

Part IV is the core of the plan and describes what will be done and when. Section B contains the Can-Do schedule developed by the PMT. The schedule can be a printed Gantt chart to illustrate a logical sequence of events.

Appendix A, Contacts

A. Local Elected Officials
B. State Elected Officials
C. Federal Elected Officials
D. Environmental Groups or Other Active Citizen Groups
E. Local Safety Officials (police chief, fire chief, etc.)
F. Media Contacts
   1. Local Newspapers (including city desk and display advertising)
   2. Local Radio Stations (with popular newscasts)
   3. Local Broadcast Television Stations (with local news programming)
   4. Local Cable Access Television Stations
   5. Web Sites and Email Groups

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G. Local Outlets (such as businesses and churches that have agreed to post notices or serve as a distribution point for notices and information)

Appendix A lists key community leaders and consolidates the contact information for all interested parties to make it easier to share information.

Appendix B, Meeting Locations and Information Repositories

Appendix B should include the address of the facilities for public meetings and the name and phone number of the point of contact. Meeting locations should be accessible to the handicapped. Appropriate facilities include high school gymnasiums and auditoriums, public library meeting rooms, town halls or other local government facilities, and local churches. Information repositories also should be accessible to the handicapped and open to the general public at least two or three evenings a week and, ideally, on Saturdays.

Appendix C, Project Management Team Members

Appendix C should list PMT members as well as their offices, addresses, phone numbers, and email addresses.

CHAPTER 7

Statewide Implementation Agreement to Merge the NEPA and Section 404 Processes

Note: This process is managed by the Office of Environmental Services.

Notes

CHAPTER 7

STATEWIDE IMPLEMENTATION AGREEMENT NATIONAL ENVIRONMENTAL POLICY ACT AND CLEAN WATER ACT SECTION 404 CONCURRENT NEPA/404 PROCESSES FOR HIGHWAY PROJECTS IN IOWA

I. Background

In a May 1, 1992, agreement, the U.S. Department of Transportation, the Department of the Army, and the U.S. Environmental Protection Agency (EPA) adopted the document "Applying the Section 404 Permit Process to Federal-aid Highway Projects." This document endorsed methods to integrate compliance with the National Environmental Policy Act (NEPA) and the requirements of Section 404 of the Clean Water Act.

In a July 31, 1996, agreement, the Federal Highway Administration (FHWA); the Department of the Army, U.S. Army Corps of Engineers, Rock Island District (Corps); and the Iowa Department of Transportation (Iowa DOT) adopted a document entitled "Iowa Local Operating Procedures for Integrating NEPA/404". This document provided some basic agreements on the mutual goal of merging the NEPA and 404 processes, but did not provide a specific process for accomplishing that goal. Also, other Federal and State agencies that are an integral part of the NEPA and 404 processes were not involved in the development of those agreements and did not adopt the July 1996 document.

II. Purpose

This Statewide Implementation Agreement (SIA) is based on the above referenced guidance, continues the spirit of cooperation and agreement contained in the July, 1996 agreement, and implements a concurrent NEPA/404 process for highway projects in Iowa.

This SIA commits its signatories to the following:

- Potential impacts to waters of the United States, including wetlands, in Iowa shall be considered at the earliest practical time in project development.

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- Adverse impacts to such waters and wetlands shall be avoided to the extent practicable, and unavoidable adverse impacts shall be minimized and mitigated to the extent reasonable and practicable.

- Interagency cooperation and consultation shall be diligently pursued throughout the integrated NEPA/404 process to ensure that the concerns of the regulatory and resource agencies are given timely and appropriate consideration and that those agencies are involved at key decision points in project development.

This SIA is intended to:

- Improve cooperation and efficiency of governmental operations at all levels, thereby better serving the public,

- Expedite construction of necessary transportation projects, with benefits to mobility and the economy at large,

- Enable more transportation projects to proceed on budget and on schedule, and

- Protect and enhance the waters of the United States and wetlands in Iowa which will benefit the State's aquatic ecosystems and the public interest.

Regulatory and resource agency participation in this process does not imply endorsement of a transportation plan or project. ***Nothing in this SIA is intended to diminish, modify, or otherwise affect the statutory or regulatory authorities of the agencies involved.***

III. Applicability

All highway projects in Iowa needing FHWA action under NEPA and a Department of the Army permit under Section 404 of the Clean Water Act are eligible for processing under this statewide implementation agreement (SIA). If the NEPA/404 merger process is initiated and because of subsequent and more complete information the project is determined to have only very limited impacts, the merger process may cease. If it is later determined that more significant project impacts are present, the merger process may be reinitiated.

The decision to develop a project using the NEPA/404 merger process will be made jointly by the signatory agencies. Projects eligible for the process will be developed using the process unless:

- After consultation with the signatory agencies, it is determined that the project is not of sufficient complexity to warrant additional coordination and handling, or

- After consultation with the signatory agencies, it is determined that the discovery of need for an individual permit is too late in project development to revisit purpose and need or alternative points, or

- After consultation with the signatory agencies it is determined that the project is not suitable for the NEPA/404 process outlined in this agreement.

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IV. Implementing Procedures

GENERAL

A. Concurrence/Concurrence Points

The following definitions for "concurrence" and "concurrence points" are adopted for the purposes of this SIA.

Concurrence - Confirmation by the agency that information to date is adequate to agree that the project can be advanced to the next stage of project development. Concurrence does not imply that the project has been approved by an agency nor that it has released its obligation to determine whether the fully developed project meets statutory review criteria. If substantial new information regarding a concurrence point is brought forward during project development, the adequacy of the prior concurrence statement may be reconsidered. The further refinement of the project, without a substantive change, will not normally be a reason to revisit the concurrence point. Rather, it should help decision makers select the least environmentally damaging, reasonable and practicable alternative.

Concurrence Points - Points within the NEPA process where the transportation agency requests agency concurrence.

The FHWA and the Iowa DOT shall seek concurrence from the other SIA signatories regarding Purpose and Need, Alternatives to be Considered, Alternatives to be Carried Forward, and Preferred Alternative. The intent of the concurrence points in the process is to preclude the routine revisiting of decisions that have been agreed to earlier in the process and encourage early substantive participation by the agencies. The timing of the concurrence points in the environmental process is reflected in the accompanying Iowa NEPA/404 Merger Concurrence Point Chart. The chart has a degree of flexibility and range built into it within which concurrence can be reached on each of the concurrence points. The method of accomplishing the concurrence reviews will be through joint meetings of the SIA signatories and other agencies as appropriate. The FHWA and Iowa DOT will schedule meetings approximately every six months, or as mutually agreed upon, at which projects ready for one of the concurrence points will be presented for concurrence. Iowa DOT representatives from the Office of Environmental Services will develop the agendas for the meetings. The agendas will include the time and place of the meeting, descriptions of the projects to be discussed, appropriate background information to explain each project, and an indication of the concurrence point for each. Iowa DOT will provide the agenda to the SIA signatories, and other agencies as appropriate, at least 30 days in advance of the meeting to allow the regulatory and resource agencies sufficient time for review and preparation of their comments.

These meetings will promote efficient use of time and personnel resources by bringing together all of the appropriate parties to focus on multiple projects and facilitate the exchange of information necessary to obtain concurrence at the designated decision points. *The minutes of the meeting, as revised based on review by the regulatory and resource agencies, will serve as documentation of concurrence.* For major or complex projects or projects on expedited schedules, separate meetings may be scheduled. Iowa DOT will provide agendas and notification for such meetings as described above and will document concurrence in the meeting minutes.

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B. Resolving Disputes at Concurrence Points

It is anticipated that concurrence at each of the concurrence points will be achieved in most cases. In more controversial projects, however, the probability of non-concurrence may increase. Therefore, a process is needed to resolve disputes at any one of the concurrence points when one or more agency(ies) does not concur.

Dispute resolution will consist of informal efforts to reach a general consensus among the participating Federal and state agencies regarding the issues involved at the particular concurrence stage. All parties appropriate to this effort should be involved, but formal concurrence will be required from the agencies with jurisdiction by law.

Attempts will be made to resolve issues at the lowest possible level in each agency. Within 30 days of a finding of non-concurrence at one of the designated points, the FHWA and Iowa DOT will meet with the agency(ies) involved to determine the direction for resolution of the dispute. The direction for resolution will be agreed upon through consensus of the agencies involved.

The NEPA/404 process may continue whether or not attempts to reach concurrence are successful. However, if the dispute remains unresolved, any agency in non-concurrence retains the option to elevate its concerns through existing, formalized dispute elevation procedures at the appropriate point in the NEPA or Section 404 permit process. This will encourage all participating agencies to very carefully consider and accommodate the concerns raised by the resource agencies prior to finalization of the NEPA process and proposed issuance of the permit to avoid processing delays.

C. Data Collection and Analysis

The Iowa DOT will ensure that data collection activities will provide the specific items of information the Corps requires for determining compliance with the Section 404(b)(1) guidelines. Data collection will take place early in the coordination process so information will be available for discussion at the concurrence point meetings. The resource and regulatory agencies will be responsible for reviewing the data and evaluations provided by Iowa DOT and providing supplemental information as appropriate.

D. Systems Planning Process

Transportation planning is accomplished under two separate processes. One is for urbanized areas over 50,000 population where the plans are developed by the Metropolitan Planning Organization (MPO) designated for the area. The other is for the remainder of the state where the plans are developed by the Iowa DOT. The planning processes are to include the development of transportation plans addressing at least a twenty-year planning horizon and include both long and short range strategies/actions and provide for the development of transportation facilities which will function as an intermodal transportation system.

In the planning processes, the MPOs are to develop a transportation improvement program (TIP) for the metropolitan planning areas and the Iowa DOT is to develop a

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statewide transportation improvement program (STIP) for all areas of the state. The TIP and STIP are to cover a period of not less than 3 years and include a separate priority listing of projects to be carried out in each of those 3 years. In cooperation with the MPOs, the Iowa DOT will incorporate the metropolitan area TIPs into the STIP creating a single statewide transportation improvement program for all areas of the State.

The transportation planning process will generally establish the purpose and need for projects. The TIPs and the STIP will identify the mode of transportation to be funded, i.e., highways or transit, including bicycle and pedestrian needs.

The process for development of the TIPs and STIP allows for input by the public and the resource and regulatory agencies and also for their review of the TIPs and STIP. The resource and regulatory agencies should provide their input into the process and review the TIPs and STIP as appropriate. Agency participation, along with the list of projects included in the STIP for implementation, will assist the agencies in identifying and prioritizing future workloads.

E. Scoping

Scoping is a process that considers a range and extent of action(s), alternatives and impacts, including Section 404 permit issues, to be considered in the environmental review process. It is not a single event or meeting but continues throughout the development of an environmental document and includes public involvement, usually a series of meetings, telephone conversations, or written comments from different individuals and groups. No matter how thorough the scoping process, it may become necessary to modify the scope of an environmental document if new issues surface during project development.

Scoping has specific and fairly limited objectives. They are: 1) to identify the affected public and agency concerns; 2) to facilitate an efficient environmental documentation process through assembling the cooperating agencies, identifying all the related permits and reviews that must be scheduled concurrently; 3) to define the issues and alternatives that will be examined in detail in the environmental document while simultaneously devoting less attention and time to issues which cause no concern; and 4) to save time in the overall process by helping to ensure that draft documents adequately address relevant issues, reducing the possibility that new comments will cause a statement to be rewritten or supplemented.

Scoping begins when the Iowa DOT identifies the affected parties and presents a proposal with an initial list of environmental issues and alternatives. This basic information is necessary to explain to the public and the agencies what their involvement is expected to be. The first stage is to gather preliminary information and compose a clear picture of the action proposed.

A good scoping process will lay a firm foundation for the rest of the decision making process. If the environmental documentation can be relied upon to include all the necessary information for formulating policies and making rational choices, the agency will be better able to make a sound and prompt decision. In addition, if it is clear that all reasonable alternatives are being seriously considered, the public and agencies will usually be more satisfied with the alternative selection process.

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SPECIFIC

The signatory agencies have identified four concurrence points which occur during the Iowa DOT's project development process. These are strategic points in time when the Iowa DOT will present updated project development information to the resource agencies. The resource agencies will review this information and provide concurrence that the Iowa DOT is properly considering and addressing any potential natural resource impacts related to the project's development in balance with other social and economic impacts. This process will also serve to satisfy the requirements for sequential mitigation (avoidance, minimization, and compensatory mitigation). The goal is to identify and address agency concerns throughout the development process.

The four concurrence points are: 1) Project Purpose and Need (this will equate to the Section 404 Overall Project Purpose), 2) Alternatives to be Analyzed, 3) Alternatives to be Carried Forward, and 4) Preferred Alternative. The final concurrence will be issuance of the required permits. The following describes the information that will be available to the resource agencies at the time the Iowa DOT seeks resource agency concurrence.

1. Purpose and Need

This concurrence point will occur after the Iowa DOT Commission has given approval to begin development of the project, the Iowa DOT has prepared a draft purpose and need statement for review, and the Iowa DOT has held a public meeting for local citizen and governmental input. The Iowa DOT will provide a draft purpose and need statement that will be partly based on information provided from its long-range systems planning office. A summary of input from the public information meeting will be available for the resource agencies. It is anticipated that the discussion on this concurrence point would be held in an environmental scoping meeting, early in the development process.

2. Alternatives to be Analyzed

During the proposed early environmental scoping meeting, the Iowa DOT will present some preliminary draft alignments on aerial photos and USGS quad maps showing beginning and ending points and known sensitive areas. Sensitive areas include wetlands, woodlands, known 4(f) properties, homes, businesses, roads, known Section 106 sites, threatened and endangered species habitats, utilities, unique landforms, sources of pollution, floodplains, prairies, parks and refuges, etc. This resource information will most likely be obtained from secondary sources. Discussion will be based on general environmental knowledge of the area and aerial photo interpretation. The agency concurrence will acknowledge that the range, number and scope of alternatives to be studied is likely adequate to satisfy permitting requirements. The Iowa DOT will seek guidance and agreement from the resource agencies at this point on the scope, duration, and details of any studies that may be required for any of the alternatives to allow a decision to be made at concurrence point 3.

3. Alternatives to be Carried Forward

At this point, the Iowa DOT will have preliminary quantitative and qualitative information on the resource impacts for the various alternatives and potential borrow sites. Planning level, field-gathered information will be available for potential impacts to sensitive areas which include wetlands and waters of the U.S. (including wetland types

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and boundaries), woodlands (by type), threatened and endangered species habitat, prime agricultural land, known Section 106 properties, resources which include regulated substances, and cultural resources for all alternatives. Based on this information, the Iowa DOT will seek concurrence on alternatives that can be dropped from further consideration. Iowa DOT will identify and provide documentation for those alternatives it feels are not practicable. Following this concurrence point, the Iowa DOT will proceed with more detailed development of the remaining alternatives.

4. Preferred Alternative

This concurrence point will be sought following the Iowa DOT Commission's selection of an alternative. The Iowa DOT will provide materials that support the preferred alternative. This will include results from any new studies, information developed following concurrence point 3, information from public and resource agency input, minutes of the Commission meeting, documentation of minimization efforts, and conceptual mitigation site alternatives.

NOTE: The Iowa DOT Commission has statutory authority for the route selection of highway improvements. The Commission's decision incorporates:

- Preliminary engineering design showing the actual footprint for the alternative and resulting resource impacts.
- Comments received about the environmental documents completed and circulated prior to Commission approval.
- Comments (both verbal and written) received during the public hearing.
- Potential borrow(s) and compensatory mitigation options for the alternative.

This process only applies to projects being completed under the Iowa DOT's *Can-Do* project development process. Projects that were started under the previous process may attempt to utilize the concepts stated above, but each project will be handled individually based on its complexity and sensitivity.

V. Modification/Termination

This SIA may be modified upon approval of all signatories. Modification may be proposed by one or more signatories. Proposals for modification will be circulated to all signatories for a 30-day period of review. Approval of such proposals will be indicated by written acceptance. A signatory may terminate participation in this agreement upon written notice to all other signatories.

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STATEWIDE IMPLEMENTATION AGREEMENT
NATIONAL ENVIRONMENTAL POLICY ACT
AND
CLEAN WATER ACT SECTION 404
CONCURRENT NEPA/404 PROCESSES
FOR
HIGHWAY PROJECTS
IN
IOWA

The Federal agencies and the Iowa Department of Natural Resources in cooperation with the Iowa Department of Transportation (Iowa DOT) agree to implement, to the fullest extent practicable and as funding and staffing level allow, the solutions outlined in the Statewide Implementation Agreement to the extent they are implemented by Iowa DOT.

This agreement becomes effective upon signature of all agencies and may be modified by written approval of each agency. This agreement may be revoked by agreement of all agencies or by any agency upon 30-days written notice to the other agencies.

U.S. Army Corps of Engineers

Steve Vander Horn
Chief, Regulatory Branch
Operations Division
Rock Island District

Kathyrn M. Schenk
Chief, Regulatory Branch
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Omaha District

U.S. Fish and Wildlife Service

Richard C. Nelson
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William W. Rice
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Federal Highway Administration

Notes

Bobby Blackmon
Division Administrator

Iowa Department of Transportation

Mark Wandro
Director

Iowa Department of Natural Resources

Lyle Asell
Acting Director

CHAPTER 8

Abbreviations and Short Forms

Notes

CHAPTER 8
ABBREVIATIONS AND SHORT FORMS

3R	rehabilitation, resurfacing, and restoration
404	Section 404 of the Clean Water Act
AASHTO	American Association of State Highway and Transportation Officials
ADE	assistant district engineer
ADT	average daily traffic
Advisory Council	Advisory Council on Historic Preservation
AN	as needed
CADD	computer-aided design and drafting
CAG	citizen advisory group
CE	categorical exclusion
CFR	Code of Federal Regulations
Commission	Iowa Transportation Commission
Corps	U.S. Army Corps of Engineers
CSD	context-sensitive design
DMT	design management team
DNR	Department of Natural Resources
DTM	digital terrain model
DCE	district construction engineer
DE	district engineer
DEIS	draft environmental impact statement
DRP	data recovery plan
EA	environmental assessment
EIS	environmental impact statement

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EJ	environmental justice
EPA	Environmental Protection Agency
FHWA	Federal Highway Administration
FEIS	final environmental impact statement
FONSI	finding of no significant impact
FR	Federal Register
FTA	Federal Transit Administration
GIS	geographical information systems
GPS	global position system
IAC	Iowa Administrative Code
ICN	Iowa Communications Network
IDNR	Iowa Department of Natural Resources
IJR	interchange justification report
Iowa DOT	Iowa Department of Transportation
ISTEA	Intermodal Surface Transportation Efficiency Act
LAN	local area network
MOA	memorandum of agreement
MPO	metropolitan planning organization
NACD	Native American Consultation Database
NEPA	National Environmental Policy Act
NHS	National Highway System
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
PDA	predetermined access
PDIT	process development improvement team
PMT	project management team

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PPM	Policy and Procedure Memorandum
Q&A	question and answer
RCB	reinforced concrete box
RCE	resident construction engineer
ROD	record of decision
ROW	right-of-way
SHPO	state historic preservation office
SIA	Statewide Implementation Agreement
State	State of Iowa
STIP	statewide transportation improvement program
T&E	threatened and endangered species
TCP	traditional cultural property
TIP	transportation improvement program
Tracking Document	Can-Do Project Tracking Document
TS&L	type, size, and location
USC	United States Code
VE	value engineering

CHAPTER 9

Glossary

Notes

CHAPTER 9
GLOSSARY

availability session and open house	An informal meeting in a public location where citizens can talk to involved officials on a one-to-one basis, ask questions, and express concerns directly to project staff. Such meetings can also be set up to allow informal conversations among representatives of all interested organizations. The meetings are usually scheduled during the evening at a local public library, school, or meeting room.
Brown Book	[To be added.]
citizen advisory group (CAG)	A public forum for representatives of diverse community interests to present and discuss issues involving a particular project. Though CAGs can have many different forms, responsibilities, and roles, they are typically a group of stakeholders who meet regularly to discuss their needs and concerns. The purpose of CAGs is to promote direct, two-way communication between the community, Iowa DOT, and permitting agencies. CAGs can increase active community participation in decision-making by providing a voice for affected community members and groups.
community interview	An informal, face-to-face, or telephone interview held with local residents, elected officials, community groups, and other individuals to acquire information on citizen concerns and attitudes about a proposed project.
context sensitive design (CSD)	An approach to highway planning and development that fits the roadway into the environment rather than modifying the environment to fit the highway. This approach uses the project context (see definition below) and public input to guide development of the project concept.
cross section	The width of the roadway, including the clear zone, shoulder, parking lanes, travel lanes, and/or median.
data recovery (archaeological)	A mitigation measure to compensate for the unavoidable loss of significant cultural resource properties to a highway improvement. Data recovery involves excavating to recover a substantial amount of information from an archaeological site, based on a data recovery plan having prior approval from the Iowa SHPO archaeologist.

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design criteria classification	Definition of the allowable range of design speed and the basic cross section of a roadway. Iowa DOT uses the following classifications: freeway, expressway, urban, 2-lane, super 2.
design management team (DMT)	A process team consisting of a design engineer, senior design technician, and engineering support staff. The DMT is responsible for providing leadership, guidance, and engineering expertise during the design process.
development	All processes required to bring a project from concept through project planning and design to contract letting.
digital terrain modal (DTM)	A three-dimensional ground model of the study area that is generated from aerial photography and developed by completing the field survey work necessary for establishing project photo control.
door-to-door canvassing	The collection and distribution of project-related information by calling on community members individually and directly. Canvassing is an effective method of gathering accurate, detailed information while determining the level of public concern. The face-to-face contact helps to ensure that citizens' questions are answered directly and individually.
environmental	As used in this document, this term typically has the broadest possible regulatory interpretation.
environmental assessment (EA)	A written document that describes and evaluates the expected social, economic, and environmental impacts of all alternatives proposed for a highway improvement project. The type of environmental documentation (EA or EIS) is determined by the Iowa DOT Office of Environmental Services, in coordination with the FHWA division office.
environmental impact statement (EIS)	A comprehensive, full-disclosure document prepared in accordance with NEPA and FHWA regulations. An EIS fully describes each proposed alternative, including anticipated direct, secondary, and cumulative impacts on the environment. An EIS is prepared when Iowa DOT and FHWA have determined, either at the onset of planning or upon preparation and review of an EA, that the project is likely to result in significant adverse impacts on the environment or is likely to be highly controversial. Preparation of an EIS includes gathering data, writing the document, and circulating the draft EIS (DEIS) to federal, State, and local reviewing agencies and the public.

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environmental scoping meeting	A meeting with external regulatory and resource agencies and local jurisdictional representatives [and other interested persons] to develop mutual understanding about a proposed project and reach early consensus in the level of environmental documentation required for external approvals.
exhibit	A visual, such as a diagram, photograph, or computer display, accompanied by a brief description or introduction. Exhibits can be a useful means of explaining technical and complex projects.
field investigation for regulated substances	Invasive fieldwork at properties that are or may be contaminated by regulated substances and appear to be unavoidable by the proposed project. Environmental samples are collected and analyzed to determine the contaminants present and the extent and seriousness of the contamination. The fieldwork may progress through multiple iterations.
final bridge design	A detailed analysis of the design elements of each structure, including foundation design (pile or spread footing), footing design, pier design, design of the superstructure, and development of a complete set of plans that includes a tabulation of bid items and quantities as well as a cost estimate.
Final Environmental Impact Statement (FEIS)	A document that serves as an action-forcing device to ensure that the policies and goals defined in NEPA are met. The FEIS provides full and fair disclosure of significant environmental impacts and informs decision makers and the public of reasonable alternatives that can avoid or minimize adverse impacts and thereby enhance the quality of the human environment. The FEIS is intended to assess the environmental impact of a proposed action, not to justify decisions already made.
Finding of No Significant Impact (FONSI)	A document prepared for FHWA after completion of the public hearing for the EA and the comment period. The FONSI, attached to the EA, briefly presents the reasons why a proposed action would not have a significant effect on the human and natural environment and therefore does not require an EIS.
focus group	A small discussion group led by a facilitator who draws out particpants' reactions to an issue. The group is selected either randomly or to approximate the demographics of the community.
geotechnical design	The soils design work that includes information on bridges, cross sections, subdrains, stability items (benches, berms, blankets, drains, etc.), and borrow design (soil profiles for borrows, borrow cross sections, etc.).

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Green Book	*A Policy on the Geometric Design of Highways and Streets*, published by AASHTO. FHWA has adopted applicable parts of the Green Book as the national standard for roads in the NHS. The Green Book contains guidance on geometric design.
holistic design	Careful planning and design that integrates the horizontal and vertical alignments of a route into its surroundings, rather than merely satisfying basic engineering design criteria, to produce a visually attractive, unobtrusive highway.
informal meeting with stakeholders	A meeting that allows interested citizens and local officials to discuss project issues and concerns or permitting activities in an informal, comfortable setting such as a resident's home, public library meeting room, community center, church hall, or other local meeting place. An informal meeting actively promotes public participation by increasing stakeholders' familiarity with the project and boosting interested citizens', community groups', Iowa DOT's, and permitting agencies' awareness of one another's viewpoints.
information table	A public participation tool that can be used by staff to interact one-on-one with interested citizens. A table or booth, staffed by at least one person who is available to answer questions about the project, is set up at a meeting, hearing, or other event such as a community fair or civic gathering. Pamphlets, fact sheets, brochures, newsletters, or project reports are available, along with a sign-up sheet for interested people to add their names to the mailing list.
initial regulated substance review	A noninvasive, preliminary assessment of properties that are or may be contaminated by regulated substances. The review consists of a database search, visual survey, and interviews.
level of service	A grading system for the amount of congestion, using "A" to represent the least amount of congestion and "F" to refer to the greatest amount.
location plus hearing	The combined corridor hearing and design hearing in the Can-Do process.
National Highway System (NHS)	All interstates and some other primary routes.
news conference	An information session or briefing held for representatives of the news media or the general public to provide accurate information concerning important developments or processes. A news conference is used when time-sensitive information needs to reach the media and public and a news release may not be able to address key issues for the community.

Notes

news release	A statement sent to the news media (such as newspapers, television stations, or radio stations), generally to publicize progress or key milestones in the permitting process. When carried by the media, a news release can effectively and quickly disseminate information to large numbers of people. It can also be used to announce public meetings, report the results of public meetings or studies, and describe how citizen concerns were considered in the permit decision or corrective action.
on-site information office	A trailer, small building, or office space located near the project or at a location convenient and accessible to the community. Usually, such offices are staffed by full- or part-time personnel who respond to citizens' inquiries and prepare information releases. The on-site staff can conduct meetings and question-and-answer sessions to inform citizens about the status of the permitting process and address their concerns.
Phase 1 archaeological survey	Information gathering to develop an archaeological report to submit to the SHPO. Survey techniques include searches of records or other literature, local area interviews, preliminary walk-over surveys of the ground surface, subsurface probing, and the gathering of geomorphological information about buried prehistoric sites potentially affected by a proposed project.
Phase 1-A historical survey	A search of archival records and literature, preliminary exterior visual examination, and local area interviews, and possibly a preliminary report regarding historic properties potentially affected by a proposed project.
Phase 1 (full) historical survey	A more in-depth review of structures or other historic property identified during Phase 1-A. Phase 1 includes detailed study of early maps and a literature search of ownership records and other sources to gather evidence for SHPO review. This survey allows Iowa DOT and FHWA, with SHPO concurrence, to determine whether affected properties are eligible for listing in the National Register of Historic Places (NRHP).
Phase 2 archaeological survey	An intensive, subsurface investigation of an archaeological site identified during the Phase 1 survey. Phase 2 uses soil probes and augers, post holes, hand-excavated test units, or other appropriate excavations to gather sufficient evidence about the site to: (1) establish horizontal and vertical boundaries and (2) allow Iowa DOT and FHWA, with the SHPO's concurrence, to determine whether a site is eligible for listing in the NRHP. Phase 2 normally includes preparation of a data recovery plan to be approved by SHPO if the site is found to be eligible.
pipeline projects	Projects that were already in the development process when the Can-Do process was initiated.

Notes

preliminary geotechnical review	A review of corridors and plans for any grade or alignment changes necessitated by the Office of Design – Soils Design Section's considerations, and an identification of multiple potential borrow sites.
preliminary type, size, and location (TS&L)	A preliminary estimate of the major structural needs, such as bridges and large culverts, for the proposed alignment. The information includes a recommendation for widening, replacing, or using existing structures, as well as a preliminary cost estimate for the items identified.
press kit	A packet of relevant, key information for distribution to reporters. Typically, the kit is a folder with pockets for short summaries of the project, technical studies, newsletters, press releases, and other background materials.
project development	The major events for project implementation, such as preparation of the environmental document, design, ROW acquisition, and contract letting.
project letting	The process of preparing a project for bidding, conducting the bidding, and awarding the contracts. This involves reviewing the project plans; preparing cost estimates, bidding documents, and proposals; printing proposals and plans; distributing bidding documents to prospective bidders; requesting FHWA approval; advertising and conducting letting; analyzing bids; and awarding contracts.
project management team (PMT)	A multidisciplinary team assembled to guide a project from early planning through letting and possibly into construction. The PMT is responsible for initially setting and then maintaining the project production schedule to proceed to letting on time and on budget. The PMT also identifies needed project resources and works with office directors to schedule those resources when needed. The PMT consists of representatives of the design management team, FHWA, and Iowa DOT Offices of Right-of-Way, Bridges & Structures, Environmental Services, and Design (Corridor Development Section). PMT leadership changes as the project progresses.
project context	The constructed and natural environment of an area in which a roadway project is to be undertaken and the people who live, work, or pass through that area.
project tour	A scheduled trip to the project site, during which technical and public outreach staff answer questions.

Notes

property documentation (historic)	An accepted mitigation measure normally employed to compensate for the unavoidable loss of significant cultural resource properties to a highway project. The documentation involves recording a historic structure or other property, using archival photographic techniques, historic research, and preparing a written narrative to document the essence of the property and the reasons for its historic significance.
public involvement plan	A set of project-specific actions to enable Iowa DOT to work effectively with the affected community and the resource agencies on the permit application. The purpose is to identify public concerns and use existing requirements as a framework for meaningful public input in permitting decisions.
question and answer (Q&A) session	A means of direct communication between Iowa DOT and citizens. Representatives are made available after an event such as a presentation, briefing, exhibit, or meeting. Q&A sessions bring Iowa DOT staff and interested citizens together to answer questions one-on-one and address concerns about the project and the Can-Do development process. The setting may be formal or informal.
record of decision (ROD)	A brief, concise document prepared to NEPA and FHWA specifications and provided to the same parties who received the FEIS. The ROD documents decisions made regarding the project, including any Section 4(f) determinations, identifies the environmentally preferred alternative, discusses the basis for decisions and planned mitigation measures, and presents responses to any comments received on the FEIS. No further project development approvals may be given by FHWA until the ROD is approved. A ROD is only required on projects for which an EIS has previously been prepared.
right-of-way (ROW)	The publicly owned parcel of land that encompasses all the various cross-section elements.
right-of-way (ROW) relocation plan	A plan for relocating residents and businesses that would be displaced by the proposed alignment alternatives. The plan is based on an assessment that includes an inventory of the homes, farms and businesses within the ROW; available properties in the area that could serve as suitable replacement properties; and financial information on property values and mortgage rates in the local market.
scoping	"An early and open process for determining the scope of issues to be addressed [in the environmental document] and for identifying the significant issues related to a proposed action." (40 CFR, §1501.7)

Notes

single public hearing	The combination of a corridor location hearing and design hearing, also called a "location plus hearing." When a formal hearing is conducted, more detail is available than at the corridor location hearing. It is estimated that planning studies will be 100 percent complete and design about 35 percent complete for this hearing. For complex projects, more than one alternative may be presented at the hearing, provided both are considered equal.
stakeholder	Any non-Iowa DOT entity having an interest in a project, including (but not limited to) community members, groups, politicians, resource agencies, and the general public.
super 2	A design criteria classification for roadways. (Other classifications are freeway, expressway, urban, and two-lane.) Specifically, *super 2* refers to a two-lane road with periodic turn lanes and acceleration lanes for trucks.
support functions	Those groups or individuals who do not have direct membership on a PMT but whose work product is necessary to make informed decisions, or to provide necessary project clearances and/or construction permits. Examples are the Office of Design – Photogrammetry/Preliminary Survey Section and Soils Design Section, Specifications, Office of Contracts, Office of Bridges & Structures, Office of Maintenance, and Field Services. Support functions generally are represented by a PMT member
survey and telephone poll	A means of gathering general impressions about specific activities or public participation events. A survey or poll is used when an anonymous method for submitting information is needed. A survey can be oral or written, taken in person, or sent by mail. It can be distributed either to the entire community or to specific segments or representative samples of the community.
telephone contact	A quick method of informing key persons about activities, monitoring shifts in community concerns, gathering information about the community, and providing updates.
telephone hotline	A toll-free or local telephone number to call to ask questions and obtain information about a project or process. Telephone hotlines provide interested persons with a relatively quick way of expressing their concerns directly and obtaining answers to their questions. Some hotlines also enable callers to order documents.
threatened and endangered species (T&E) investigation	A field study with a follow-up written report to establish the presence, or likely absence, of any State- or federally listed protected plant or animal species. A field study is conducted only when there is evidence that suitable habitat may be present or when a protected species is known to inhabit the area.

Notes

traffic data analysis	An analysis for a corridor improvement project that includes the projected average daily traffic (ADT) for the design year and beyond for both the mainline and intersecting roads, and an analysis of turning movements for intersecting roads and other designated locations, with a breakdown showing the percentage of trucks, and directional traffic flow effects.
turnkey	A contractual method whereby responsibility for a project from planning to letting is delegated to a consultant.
Type I project (major change) – Policy Procedure Memorandum (PPM) 500.02	A project with the following characteristics: *Location:* New alignment or relocation along a major portion of highway section. *Grades:* Complete new grade line or very small segments of existing grade are retained. *Right-of-way:* Substantial ROW acquisition is required. *Public access:* For a freeway or expressway, restricted to interchange locations or limited at-grade connections; otherwise, unchanged except for minor adjustments.
Type II project (minor change) – Policy and Procedure Memorandum (PPM) 500.02	A project with the following characteristics: *Location:* Generally the existing location. *Grades:* Generally the existing grades. *Through lanes*: Remain in the existing location but normally will be widened. *Right-of-way:* Additional ROW is required. *Public access:* Unchanged or only minor adjustments.
Type III project (repair, replacement, or operational improvement) – PPM 500.02	A project with the following characteristics: Location: No change. *Grades:* No change, except in isolated circumstances. *Right-of-way:* No change, except in isolated circumstances. *Through lanes:* No change, but width may change and turning lanes may be added. *Public access:* Remains the same.
value engineering (VE)	A systematic method of identifying, evaluating, and selecting an alternative by an objective, diverse team not associated with ownership of the project. The VE process takes into account both objective parameters (such as cost, time, or alternatives) and subjective parameters (such as safety or politics) associated with a project.

Notes

value engineering (VE) study	The systematic application of recognized techniques by a multidisciplinary team to identify the function of a product or service, establish a worth for that function, generate alternatives through creative thinking, and provide needed functions at the lowest life-cycle costs without sacrificing the safety, necessary quality, and environmental attributes of the project. VE applies to all federally aided highway projects in the NHS with an estimated cost of $25 million or more. Iowa DOT has procedures to identify candidate projects for VE studies early in the development stage.
visualization tools	Illustrations that give stakeholders a certain degree of confidence that they understand what the designers intend a project to look like after it is built. Increasingly, computer-generated graphics are used for this purpose.
workshop	A seminar or gathering of small groups (usually between 10 and 30 people) typically led by one or two specialists with technical expertise in a specific area. A workshop is used to explain the project or development process to community members, or to discuss specific topics, especially complex technical details. A workshop can improve public understanding of the project or development process, identify citizen concerns, prevent or correct misconceptions, and encourage public input.

CHAPTER 10

References

Notes

CHAPTER 10
REFERENCES

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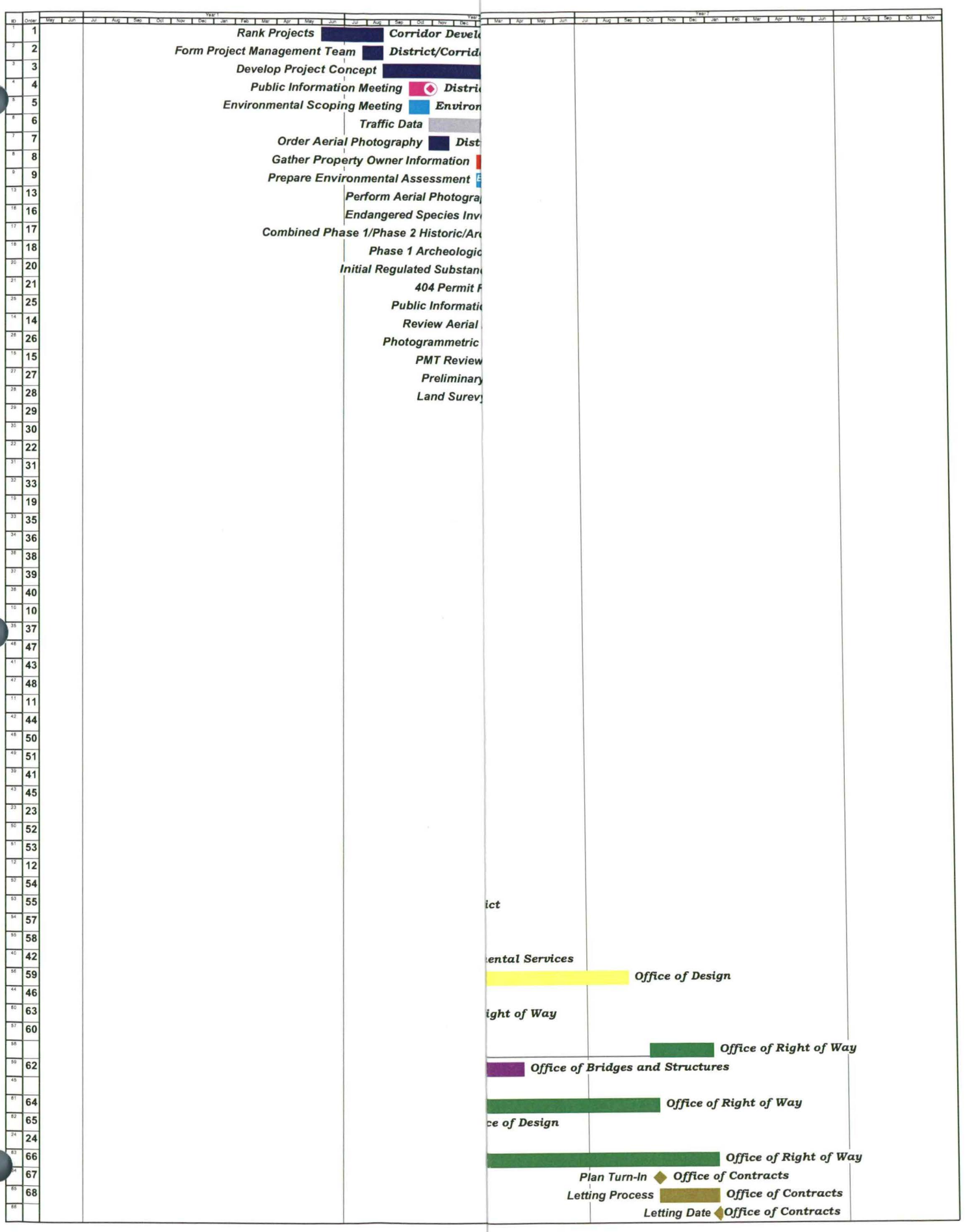
APPENDIX A

Can-Do Gantt Charts

COLORED VERTICAL DELINEATION SHOWS CONCURRENCE POINTS (OR TIME RANGES)
IN THE STATEWIDE IMPLEMENTATION AGREEMENT
TO MERGE THE NEPA AND SECTION 404 PROCESSES.
SEE CHAPTER 7 FOR THE AGREEMENT
AND CHAPTER 2, CAN-DO SCHEDULING, FOR THE EVENTS.


Rank Projects
Corridor Devel
Form Project Management Team
District/Corrid
Develop Project Concept
Public Information Meeting
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Environmental Scoping Meeting
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Traffic Data
Order Aerial Photography
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Gather Property Owner Information
Prepare Environmental Assessment
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Plan Turn-In
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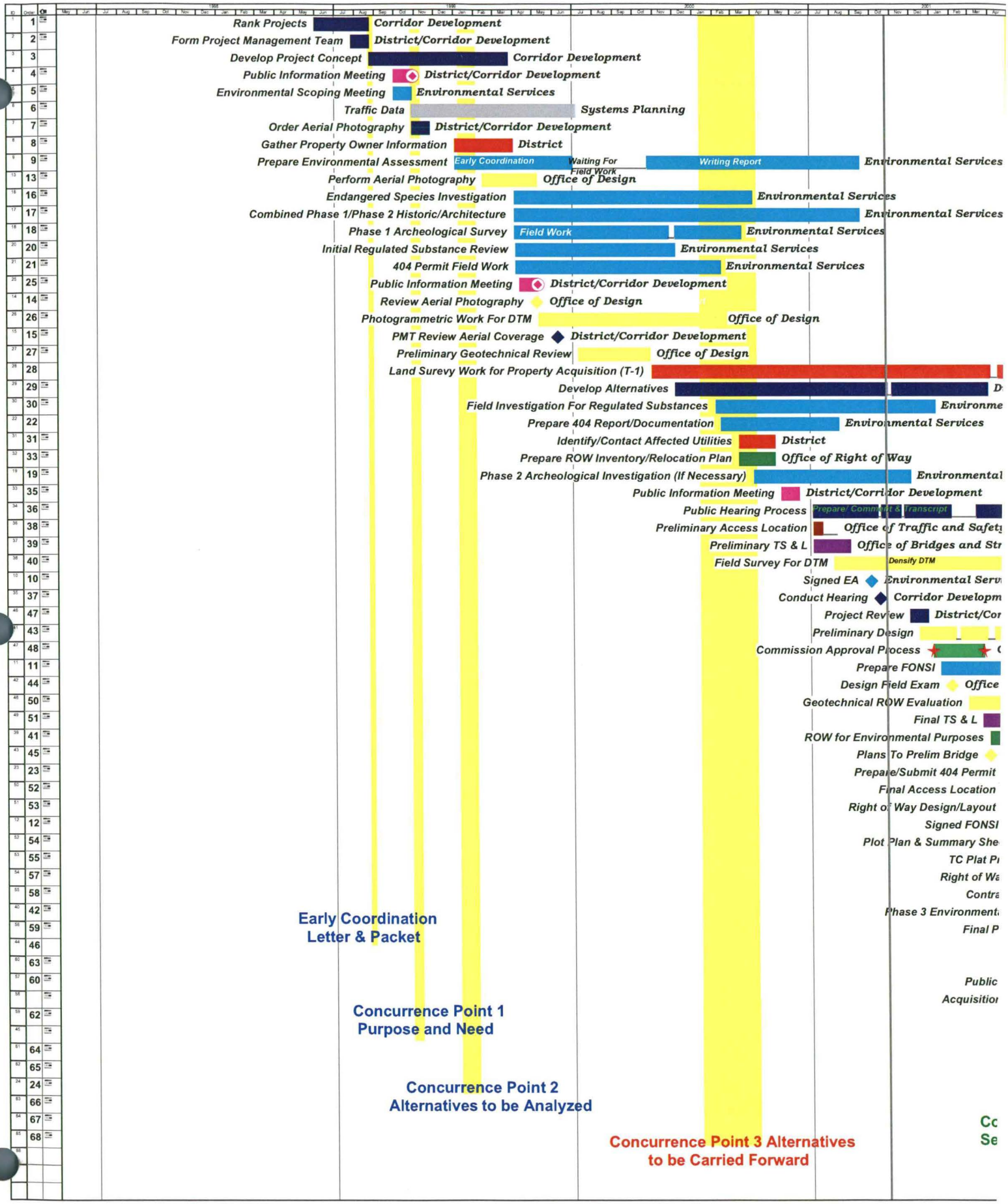
Letting Process
Office of Contracts
Letting Date
Office of Contracts


Rank Projects
Corridor Development
Form Project Management Team
District/Corridor Development
Develop Project Concept
Corridor Development
Public Information Meeting
District/Corridor Development
Environmental Scoping Meeting
Environmental Services
Traffic Data
Systems Planning
Order Aerial Photography
District/Corridor Development
Gather Property Owner Information
District
Prepare Environmental Assessment
Early Coordination
Waiting For Field Work
Writing Report
Environmental Services
Perform Aerial Photography
Office of Design
Endangered Species Investigation
Environmental Services
Combined Phase 1/Phase 2 Historic/Architecture
Environmental Services
Phase 1 Archeological Survey
Field Work
Environmental Services
Initial Regulated Substance Review
Environmental Services
404 Permit Field Work
Environmental Services
Public Information Meeting
District/Corridor Development
Review Aerial Photography
Office of Design
Photogrammetric Work For DTM
Office of Design
PMT Review Aerial Coverage
District/Corridor Development
Preliminary Geotechnical Review
Office of Design
Land Surevy Work for Property Acquisition (T-1)
Develop Alternatives
Field Investigation For Regulated Substances
Prepare 404 Report/Documentation
Environmental Services
Identify/Contact Affected Utilities
District
Prepare ROW Inventory/Relocation Plan
Office of Right of Way
Phase 2 Archeological Investigation (If Necessary)
Public Information Meeting
District/Corridor Development
Public Hearing Process
Prepare/ Commit & Transcript
Preliminary Access Location
Office of Traffic and Safety
Preliminary TS & L
Office of Bridges and Str
Field Survey For DTM
Densify DTM
Signed EA
Conduct Hearing
Corridor Developm
Project Review
District/Cor
Preliminary Design
Commission Approval Process
Prepare FONSI
Design Field Exam
Office
Geotechnical ROW Evaluation
Final TS & L
ROW for Environmental Purposes
Plans To Prelim Bridge
Prepare/Submit 404 Permit
Final Access Location
Right of Way Design/Layout
Signed FONSI
Plot Plan & Summary She
TC Plat P
Right of Wa
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Phase 3 Environmenta
Final P
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Acquisitio
Early Coordination Letter & Packet
Concurrence Point 1 Purpose and Need
Concurrence Point 2 Alternatives to be Analyzed
Concurrence Point 3 Alternatives to be Carried Forward
Cc
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APPENDIX B

PMT Checklists

1. PMT RESPONSIBILITY CHECKLIST
2. PMT MEETING AGENDA CHECKLIST

Notes

PMT RESPONSIBILITY CHECKLIST

Revisions

12-20-99 Current version

3-24-99 Add first bullet

5-17-99 Add general statement information under heading
Add second sentence to "B.1"

12-20-99 Revise Item F, Value Engineering

Districts are responsible for ensuring that Project Management Teams (PMTs) are established for all projects that require an environmental document. Specifically, this requirement applies to environmental assessments (EAs), findings of no significant impact (FONSIs), and environmental impact statements (EISs) but not to categorical exclusions (CEs).

General Responsibilities of a PMT[1]

A. Assist in developing a project concept that meets the purpose and need statement for the project.

B. Prepare and maintain a project schedule.

1. Provide the project schedule to the scheduling engineer, who shall:
   a. Incorporate it into the production schedule.
   b. Maintain a list of projects with PMTs and the members assigned to each team.
2. Revise the schedule.

C. Request that the Office of Environmental Services determine the appropriate level of environmental documentation.

D. Determine the level of detail for the public involvement and establish the process.

1. Implement the public involvement process in accordance with Chapter 5, Development of a Public Involvement Program, and Chapter 6, Techniques for Public Involvement.
2. Identify the external customers and their level of involvement.

[1] Note that some of the PMT responsibilities in this checklist are concurrent rather than linear.

Notes

3. Identify the affected agencies, such as federal agencies, cities, counties, and emergency providers.

4. Establish an early and on-going public involvement process.

E. Prepare a project cost estimate.

1. Provide the cost estimate to the division director's Management Team for approval.

2. Provide justification for changes to the division director's Management Team for approval.

F. Manage the value engineering (VE) process.

1. Determine the need for VE.

   a. "Carry out a Value Engineering analysis during the design phase for all projects on the NHS with an estimated total cost of $25 million or more." (Refer to 23 USC, 106 (g)(2) and 23 CFR, Part 627 for further guidance on the applicability of VE.)

   b. Use VE where project advantages can be gained, regardless of the project size or federal requirements.

2. Determine the appropriate time to initiate a VE study. Minimum opportunities are during corridor evaluation and design evaluation.

3. Establish a time line for the final report.

4. Provide a copy of the VE schedule to the scheduling engineer.

5. Charter Value Engineering teams in one of three ways (as necessary for flexibility and maximum opportunities):

   a. Option 1 (recommended): Request that the Value Engineering Team be assembled from internal resources.

   b. Option 2 (recommended): Request that the VE process be outsourced or compose the team of a combination of internal and external resources.

   c. Option 3: Use PMT members. A PMT-staffed VE study may be the most practical for selected issues. If this option is used:

      (1) Ensure that all members serving on the Value Engineering Team have received VE training.

      (2) Do not include the PMT member and the district representative in the area being studied. For example:

Notes

(a) If the VE study is to evaluate the corridor or alignment phase, the PMT representative from the Corridor Development Section and the district planner from the area being studied may not serve on the Value Engineering Team. Any other resource individual from the Corridor Development Section and another district planner may be designated to replace them.

(b) If the VE study is to evaluate a design element, the PMT design engineer and the assistant district engineer (ADE) may not serve on the Value Engineering Team. Any other design engineer and another ADE may be designated to replace them.

d. Forward requests for a Value Engineering Team to the value engineering coordinator in the Support Services Bureau of the Highway Division. The value engineering coordinator is then responsible for:

(1) Arranging for resources (internal and/or external).

(2) Obtaining the necessary review documents and meeting location.

(3) Assembling the review team as requested.

(4) Providing support (process and programmatic) to the PMT.

(5) Monitoring VE activities throughout Iowa DOT to ensure that studies are conducted when required by 23 CFR, Part 627.

6. Define the boundaries (scope) of the VE study.

7. Ensure that the Value Engineering Team has all appropriate and relevant project information available for its review.

8. Oversee the process to keep the report of findings within a predefined scope.

9. Implement the results of a VE study.

a. Provide the value engineering coordinator with a final copy of the Value Engineering report and a list of recommendations to be incorporated into the project.[2]

b. Alternatively, provide written comments to the value engineering coordinator as to why a VE recommendation was not incorporated into the project.

---

[2] Federal regulations require that Iowa DOT file an annual Value Engineering Report containing a summary description of each VE project, formal VE recommendations, a list of recommendations implemented, and estimated cost savings realized from VE. (Refer to FHWA Policy Guide G6011.9 and the Value Engineering Web site at www.fhwa.dot.gov/ve for additional information.)

Notes

A. Provide general project coordination.

1. Order the traffic analysis and turning movements.

2. Include the following peripheral functions:

   - Support Services Bureau – utilities involvement
   - Modal Division – railroad agreements
   - Support Services Bureau – city and county agreement needs
   - Office of Traffic & Safety Access – reviews and determinations
   - Office of Local Systems – local government agencies
   - Office of Contracts – contract packaging
   - Statewide Operations Bureau – specifications and special provisions

3. Ensure that the peripheral functions are included in the decision-making process in their areas of responsibility.

4. Ensure that the peripheral functions are provided with continuous access to project information and decisions.

B. Monitor and manage the project development.

1. Monitor the schedule of the assigned project to ensure that individual tasks are started and completed within the allotted time.

2. Make resource requests to appropriate office directors to ensure that internal and/or external resources are available to meet scheduling commitments.

3. Maintain a fiscally constrained project by adhering to the cost estimate.

4. Conduct meetings on a regular basis.

C. Maintain formal minutes and other business files.

1. If possible, store minutes and other written business of the PMT in electronic project files that are available (most likely as Read-Only) to those who have access to the Nterprise network.[3] This requires:

   a. Providing information as to where project information can be obtained.

   b. Providing paper copies to those few who do not have electronic connectivity.

[3] For simplicity, a folder called "Can-Do Projects" could be created on the Nterprise drive. Subfolders could be created using the project number, and individual data files, such as the PMT minutes for a specific project, could be stored in the appropriate subfolders.

Notes

2. Distribute the minutes to:

   - Engineering Bureau director
   - scheduling engineer
   - Office directors in the Engineering Bureau

Notes

PMT MEETING AGENDA CHECKLIST

The following checklist[4] can be used to as an agenda for PMT meetings to ensure that key development issues are discussed and tracked.

A. Review the project schedule.

☐ Follow the Can-Do scheduling (see Chapter 2).

B. Review the development status.

☐ Concept and corridor development progress

☐ Design

☐ Soils

☐ Structures

- Pinks
- TS&Ls (type, size, and location)

☐ Ground survey

☐ Environmental review

- NEPA document (CE, EA/FONSI, EIS)
- Cultural and historic surveys
- Wetland surveys
- Regulated materials surveys
- Threatened and endangered species (T&E) surveys

☐ Land corner survey

- Corner certificates
- Acquisition plats

☐ ROW

- Relocation parcels
- Layout
- RCB parcels
- Owner tracking list (names and addresses)

C. Review project costs.

D. Review the coordination status.

☐ Traffic

- Estimate

4 Information provided in this checklist was developed by the Consultant Coordination Section.

Notes

- Traffic control review

☐ Utilities involvement

☐ Railroad and recreation trail agreements

☐ City and county project agreements

☐ Access reviews

☐ Contract packaging

☐ Value engineering

☐ Lighting and signing

☐ Public involvement

☐ Interchange review (including interchange justification report [IJR], if needed)

Notes

Form 000021 12-89

IOWA DEPARTMENT OF TRANSPORTATION

To:	Federal Highway Administration	**Date:**	November 17, 1999
Attention	Bobby Blackmon		
From:	E. Tom Cackler		
Office	Project Development Div.		
Subject:	Value Engineering		

Attached is a copy of the guidance we give our project management teams, which has been revised to address value engineering. Please review this draft and, if it's acceptable, we will issue formally to our staff.

ETC/bas

Attachment

cc: Jim Rost