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Incorporating NEPA into IDOT and MPO Planning Processes

Prepared By
Nora El-Gohary
University of Illinois at Urbana-Champaign
Liang Liu
University of Illinois at Urbana-Champaign
Khaled El-Rayes
University of Illinois at Urbana-Champaign
Xuan Lv
University of Illinois at Urbana-Champaign

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Incorporating NEPA into IDOT and MPO Planning Processes

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16. Abstract

This report summarizes the tasks and findings of the ICT Project R27-132 Incorporating National Environmental Policy Act (NEPA) into IDOT and Metropolitan Planning Organization (MPO) planning processes, which is aimed at assisting IDOT in defining guidelines on how to integrate NEPA into the current IDOT and MPO planning processes for large-scale highway projects. The objectives of the project are to (1) provide a comprehensive review of literature of practices integrating NEPA into transportation planning processes in other states; (2) gather feedback from inter- and intra-departmental staff involved in the IDOT planning process, the MPO planning process, and the NEPA process to evaluate the existing practices of integrating NEPA into transportation planning processes for large highway projects; (3) evaluate the impact of these practices on the project development process; (4) identify (based on 1, 2, and 3 above) the key elements/practices that are needed to successfully integrate NEPA into IDOT and MPO planning processes for large-scale highway projects; (5) develop a Guidance Document on how to integrate NEPA into IDOT and MPO planning processes for large-scale highway projects; and provide recommendations on how to evaluate the integrated process. The implementation of this Guidance Document by MPOs would be voluntary. To achieve these objectives, the research team conducted seven main tasks: (1) literature review; (2) collecting project data for analysis as case studies; (3) conducting interviews for evaluating potential integration practices; (4) analyzing the results of the literature review, case studies, and expert interviews; (5) developing the proposed Integrated IDOT-MPO-NEPA Planning Process; (6) conducting interviews for evaluating the proposed integrated process; and (7) developing the Guidance Document.

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Members of the Technical Review Panel were the following:

Bruce Carmitchel, IDOT (Chair)

Gary McIntyr, Rockford Metropolitan Agency for Planning

Jennifer Hunt, IDOT District 8

Jerry Stevenson, FHWA

Jesse Elam, Chicago Metropolitan Agency for Planning

Megan Swanson, IDOT

Walter Zyznieuski, IDOT

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EXECUTIVE SUMMARY

The main goal of this project was to assist the Illinois Department of Transportation (IDOT) in defining the guidelines on how to integrate the National Environmental Policy Act (NEPA) into the current IDOT and Metropolitan Planning Organization (MPO) planning processes for large-scale highway projects. To accomplish this goal, the objectives of the project were to (1) provide a comprehensive review of literature of practices integrating NEPA into transportation planning processes in other states; (2) gather feedback from inter- and intra-departmental staff involved in the IDOT planning process, the MPO planning process, and the NEPA process to evaluate the existing practices of integrating NEPA into transportation planning processes for large highway projects; (3) evaluate the impact of these practices on the project development process; (4) identify (based on 1, 2, and 3 above) the key elements/practices that are needed to successfully integrate NEPA into IDOT and MPO planning processes for large-scale highway projects; (5) develop a Guidance Document on how to integrate NEPA into IDOT and MPO planning processes for large-scale highway projects; and provide recommendations on how to evaluate the integrated process. The implementation of this Guidance Document by MPOs would be voluntary. To achieve these objectives, the research team conducted seven main tasks: (1) literature review; (2) collecting project data for analysis as case studies; (3) conducting interviews for evaluating potential integration practices; (4) analyzing the results of the literature review, case studies, and expert interviews; (5) developing the proposed Integrated IDOT-MPO-NEPA Planning Process; (6) conducting interviews for evaluating the proposed integrated process; and (7) developing the Guidance Document.

For Task 1, the research team conducted a comprehensive literature review of (1) the IDOT planning process, (2) the MPO planning process, (3) the NEPA process, and (4) existing documents/studies that describe and/or evaluate the current practices of linking/integrating NEPA and transportation planning processes in other states. The research team reviewed relevant information resources including NEPA regulations, the FHWA's Planning and Environment Linkages (PEL) initiative and its related publications, and reports by the National Cooperative Highway Research Program (NCHRP). The research team placed special emphasis on states that have recently developed guidance on how to integrate transportation planning and NEPA processes, such as the Florida Department of Transportation (FDOT). The research team reviewed existing documents/studies that describe the current practices of linking/integrating NEPA and transportation planning processes from four states: Colorado, Florida, Indiana, and Maine.

For Task 2, the research team worked on collecting project data for further analysis as case studies (as part of Task 4). In Task 1, the research team identified the efforts of integrating transportation planning and NEPA processes in four states (Colorado, Florida, Indiana, and Maine). In this task, to gain a deeper understanding of the integrated process and its impact on project development, the research team collected project data from these four states, in addition to Illinois. In total, the research team collected data on 21 projects. The research team collected the following data for each case study project: (1) coordination data, including the number of leading agencies and cooperating agencies, the number of interagency meetings, and the number of document preparers; (2) process performance data, including the preparation and processing times for Environmental Assessments (EAs) and Environmental Impact Statements (EISs), the number of alternatives that were analyzed in detail, and the EPA’s rating of draft EISs; (3) public involvement data, including the length of public comment period once the EA/EIS is published, and the number of public hearings and meetings; and (4) other related project data, including the geographical location of the project, the size and type of the project, the cost of the project, and the level of environmental impact of the project.

For Task 3, the research team conducted a set of one-to-one expert interviews with staff from the following agencies to evaluate potential practices of integrating NEPA into transportation planning processes – for large-scale highway projects: IDOT (including IDOT Districts, IDOT Office of Planning and Programming, IDOT Bureau of Design and Environment), FHWA, MPOs, and Resource Agencies.

Based on the analysis of the literature review (Task 4A), the research team developed a set of draft survey questionnaires for conducting the interviews in a structured manner. In the March 11, 2013 TRP meeting, the research team discussed the draft survey questionnaires with the TRP. Based on comments/discussions during the meeting, the research team revised the questionnaires. The research team then conducted a set of one-to-one meetings with members from the TRP as well as experts from IDOT and MPOs to solicit more detailed input about existing and potential practices – and accordingly revised/refined the questionnaires. After the final questionnaires were approved by the TRP, the research team conducted the interviews. Four sets of questionnaires were used: 1) a set for IDOT Districts, 2) a set for MPOs, 3) a set for Resource Agencies, 4) a set for IDOT Office of Planning and Programming, IDOT Bureau of Design and Environment, and FHWA. A total of 31 interviews were conducted.

For Task 4, the research team worked on analyzing the results of the literature review (Task 4A), case studies (Task 4B), and expert interviews (Task 4C). The research team analyzed the literature review by identifying the following based on the four studied states (Colorado, Florida, Indiana, and Maine): (1) motivations for the integration efforts, (2) potential areas of improvement, and (3) key integration elements/practices. For the case study projects, the research team analyzed the impact of integrating NEPA into transportation planning processes on the project development process based on the following data: (1) type of process implemented (traditional v. streamlined), (2) NEPA processing time, (3) number of major alternatives analyzed in the Final Environmental Impact Statement (FEIS), (4) number of interagency meetings, and (5) number of public hearings and meetings. The research team also conducted a set of correlation analyses to identify the factors associated with a shorter NEPA processing time. For the expert interviews, the research team conducted descriptive statistical analysis on the survey results. The research team analyzed the survey results based on mean, median, and mode scores. The research team also compared the results across the four groups of respondents. Based on the survey results, the research team then identified a set of potential key practices for successfully integrating NEPA into transportation planning processes for large-scale highway projects in Illinois.

For Task 5, the research team developed the proposed Integrated IDOT-MPO-NEPA Planning Process for large-scale highway projects based on the results of Tasks 1–4. The research team first summarized the existing IDOT, MPO, and NEPA planning processes and developed a process flow chart based on (1) the literature review of IDOT planning process, MPO planning process, and NEPA process (Task 1), (2) feedback from expert interviews (Task 3), and (3) feedback from meetings with members from the TRP and experts from MPOs. In the TRP meeting of September 6, 2013, the research team and the TRP discussed the key integration elements/practices that should be incorporated into the integrated process (based on the existing processes and the survey results [Task 3]). The research team then finalized the proposed Integrated IDOT-MPO-NEPA Planning Process based on the results of Tasks 1–4 and the TRP's recommendations during the meeting of September 6, 2013. To represent the integrated process, the research team developed a process flow chart and described each process in terms of inputs, outputs, and actors. The research team also described a set of associated collaboration-oriented integration practices (e.g., developing Memorandums of Understanding [MOUs]).

For Task 6, the research team conducted a second set of interviews with a selected set of experts to evaluate the draft Guidance Document, including (1) the proposed Integrated IDOT-MPO-NEPA Planning Process and (2) the performance measures for evaluating the Integrated IDOT-MPO-NEPA Planning Process. The research team targeted one or two experts from each of the following four groups of experts that were interviewed in Task 3 (at a total of seven experts): 1) IDOT Districts, (2) MPOs, (3) Resource Agencies, and (4) IDOT Office of Planning and Programming, IDOT Bureau of Design and Environment, and FHWA.

For Task 7, the research team developed the Guidance Document for Integrated IDOT-MPO-NEPA Planning Process. The research team first developed the draft Guidance Document based on the results of Tasks 1–5. The draft Guidance Document was evaluated using expert interviews (per Task 6) and was revised based on expert feedback. The revised draft Guidance Document was sent to the experts and Technical Review Panel (TRP) for a second and final round of review by email. The complete results of Task 7 (i.e., final Guidance Document) are included in Appendix G.

CONTENTS

CHAPTER 1 INTRODUCTION

1.1 PROJECT MOTIVATION

The Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) issued a joint guidance on the environmental review process required by Section 6002 of the Safe, Accountable, Flexible, and Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU; FHWA 2006). The SAFETEA-LU provides new guidance on integrating transportation planning and the National Environmental Policy Act (NEPA) processes, but lacks well-defined, detailed-enough strategies or guidelines. Special emphasis is required on large-scale highway projects, as they tend to have a lengthy and costly NEPA process. There is a need to identify clear institutional strategies and guidelines on how to integrate NEPA into IDOT and Metropolitan Planning Organization (MPO) planning processes for large highway projects, in a manner to ensure both compliance with the NEPA and efficiency of project development in terms of time and cost.

1.2 PROJECT OBJECTIVES

The main goal of this project was to assist IDOT in defining the guidelines on how to integrate the NEPA into the current IDOT and MPO planning processes for large-scale highway projects. Consultation was sought from representatives of relevant state and federal regulatory and Resource Agencies, such as MPOs, FHWA, Illinois Environmental Protection Agency (IEPA), Illinois Dept. of Natural Resources (IDNR), and Illinois Historical Preservation Agency. The research team sought guidance from the Technical Review Panel (TRP) for defining the list of relevant agencies and their representatives for consultation.

To accomplish this goal, the objectives of this project were to:

- Provide a comprehensive review of the literature of practices integrating NEPA into transportation planning processes in other states
- Gather feedback from inter- and intra-departmental staff involved in the IDOT planning process, the MPO planning process, and the NEPA process to evaluate the existing practices of integrating NEPA into transportation planning processes for large highway projects
- Evaluate the impact of these practices on the project development process
- Identify (based on the above information) the key elements/practices that are needed to successfully integrate NEPA into IDOT and MPO planning processes for large-scale highway projects
- Develop a Guidance Document on how to integrate NEPA into IDOT and MPO planning processes for large-scale highway projects and provide recommendations on how to evaluate the integrated process (note that the implementation of this guidance by MPOs will be voluntary)

1.3 PROJECT TASKS AND DELIVERABLES

To accomplish the objectives outlined in Section 1.2 seven main tasks were conducted: (1) literature review; (2) collecting project data for analysis as case studies; (3) conducting interviews for evaluating potential integration practices; (4) analyzing the results of the literature review, case studies, and expert interviews; (5) developing the proposed Integrated IDOT-MPO-NEPA Planning Process; (6) conducting interviews for evaluating the proposed integrated process; and (7) developing the Guidance

Document. These research tasks and their deliverables are described in more detail in the following chapters, as shown in Figure 1.

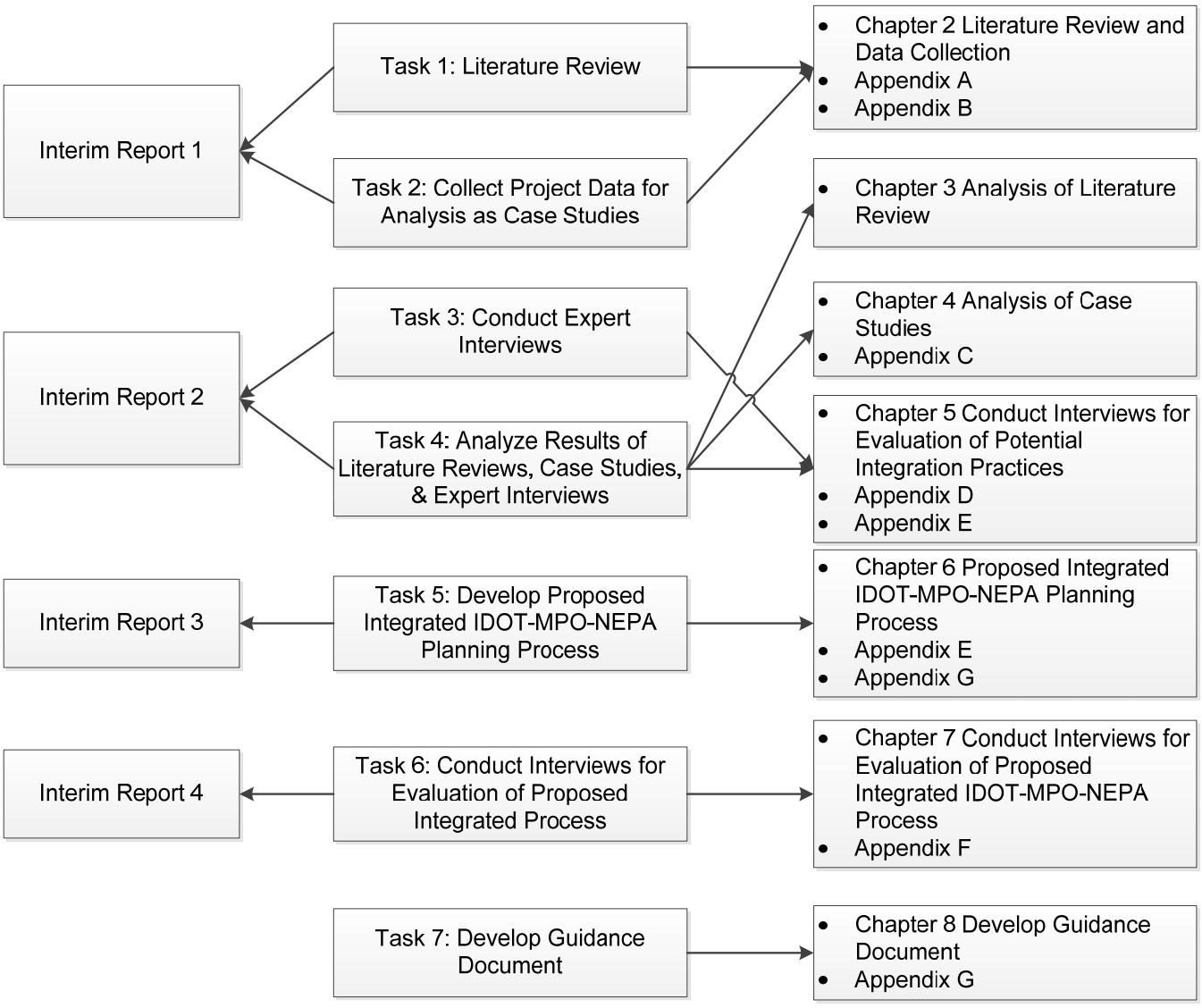


Figure 1. Project tasks and research deliverables.

CHAPTER 2 LITERATURE REVIEW AND DATA COLLECTION (TASK 1 AND TASK 2)

2.1 LITERATURE REVIEW

2.1.1 IDOT Transportation Planning Process Task

IDOT transportation planning is a cooperative process conducted by IDOT. It is intended to foster cooperation with and involvement by MPOs, transit operators, and transportation system users and stakeholders, such as the traveling public, businesses, community groups, environmental organizations, freight operators, and the general public (FHWA and FTA 2007; IDOT 2006). The process is designed to promote the development, management, and operation of a safe and efficient surface transportation system that will satisfy the mobility needs of both people and freight and that will stimulate economic growth and development within and between states and metropolitan areas, while minimizing fuel consumption and air pollution generated by transportation systems (USGPO 2011a). The transportation planning process can be described in terms of a number of steps (Figure 2). The description of these steps can be found in Appendix A1.

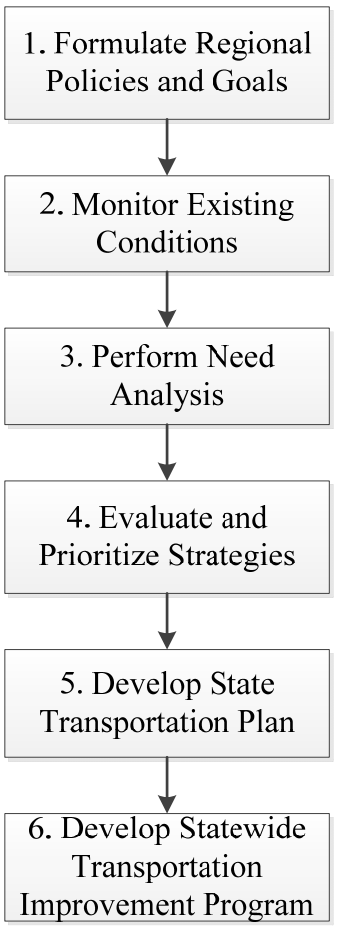


Figure 2. IDOT planning process flow chart.

2.1.2 MPO Transportation Planning Process

An MPO is a transportation policy-making organization that consists of representatives from local, state, federal government and regional transportation providers for a metropolitan planning area (IDOT 2006; IDOT 2007). Federal law requires that “each urbanized area with a population of more than 50,000 individuals” (USGPO 2011a) shall designate an MPO to carry out transportation planning for the area. Every metropolitan area with a population of over 200,000 individuals shall be identified as a transportation management area (TMA; USGPO 2011b). An MPO is responsible for conducting a comprehensive and continuing transportation planning process for its metropolitan area. For MPOs in TMAs, they shall also develop “a congestion management system (CMS) that identifies actions and strategies to reduce congestion and increase mobility” (USGPO 2011b).

In Illinois, there are 14 MPOs responsible for coordinating transportation planning within their areas of jurisdiction (IDOT 2007). Similar to IDOT transportation planning, MPO transportation planning is also a collaborative process aimed at promoting cooperation with IDOT and transit operators and involvement of all interested parties and stakeholders including business groups, regional communities, environmental organizations, and general public (IDOT 2006). The MPO planning process can be summarized in terms of a number of steps (Figure 3). The description of these steps can be found in Appendix A2.

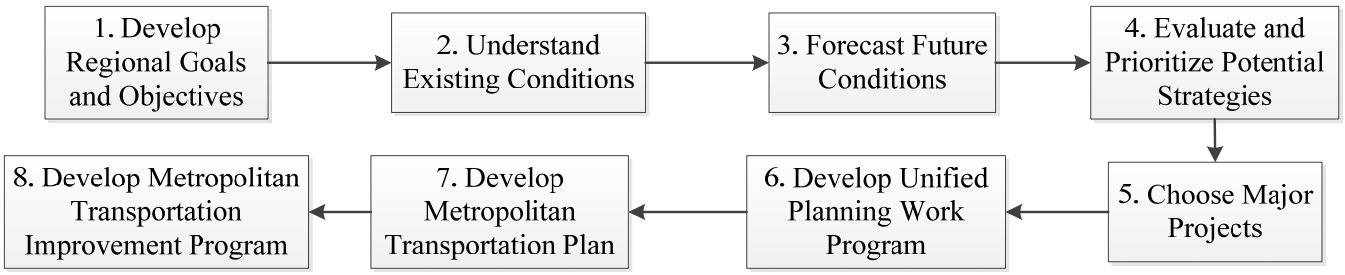


Figure 3. MPO planning process flow chart.

2.1.3 NEPA Process

Project construction has profound influences on the interrelations of all components of the natural environment. After recognizing the “importance of restoring and maintaining environmental quality to the overall welfare and development of man” (USGPO 2012), Congress enacted NEPA on January 1, 1970, as the fundamental environmental policy in the United States. According to NEPA, it is the federal government’s responsibility to create and maintain an environment where man and nature can live in productive harmony by all practicable means (USGPO 2012). Section 102 of NEPA further requires federal agencies to “incorporate environmental considerations in their planning and decision-making through a systematic interdisciplinary approach” (USEPA 2012a). All federal agencies are required to undertake a detailed analysis of potential environmental impacts and alternatives to any activity or project receiving federal funding or requiring other federal approval.

In order to facilitate the implementation of NEPA’s policies, the act established the Council on Environmental Quality (CEQ), which promulgated a series of regulations (USGPO 2012) to address procedural and administrative issues during NEPA implementation. The procedure established in the regulations, commonly known as the NEPA process, applies to every executive branch of the federal government (CEQ 2007). The NEPA process “requires stakeholders to strike a delicate balance between many important factors, including mobility needs, economic prosperity, health and environmental protection, community and neighborhood preservation, and quality of life for present and

future generations" (USDOT et al. 2009). The NEPA process is summarized in Figure 4 (adapted from CEQ 2007). A more detailed description of the NEPA process can be found in Appendix A3.

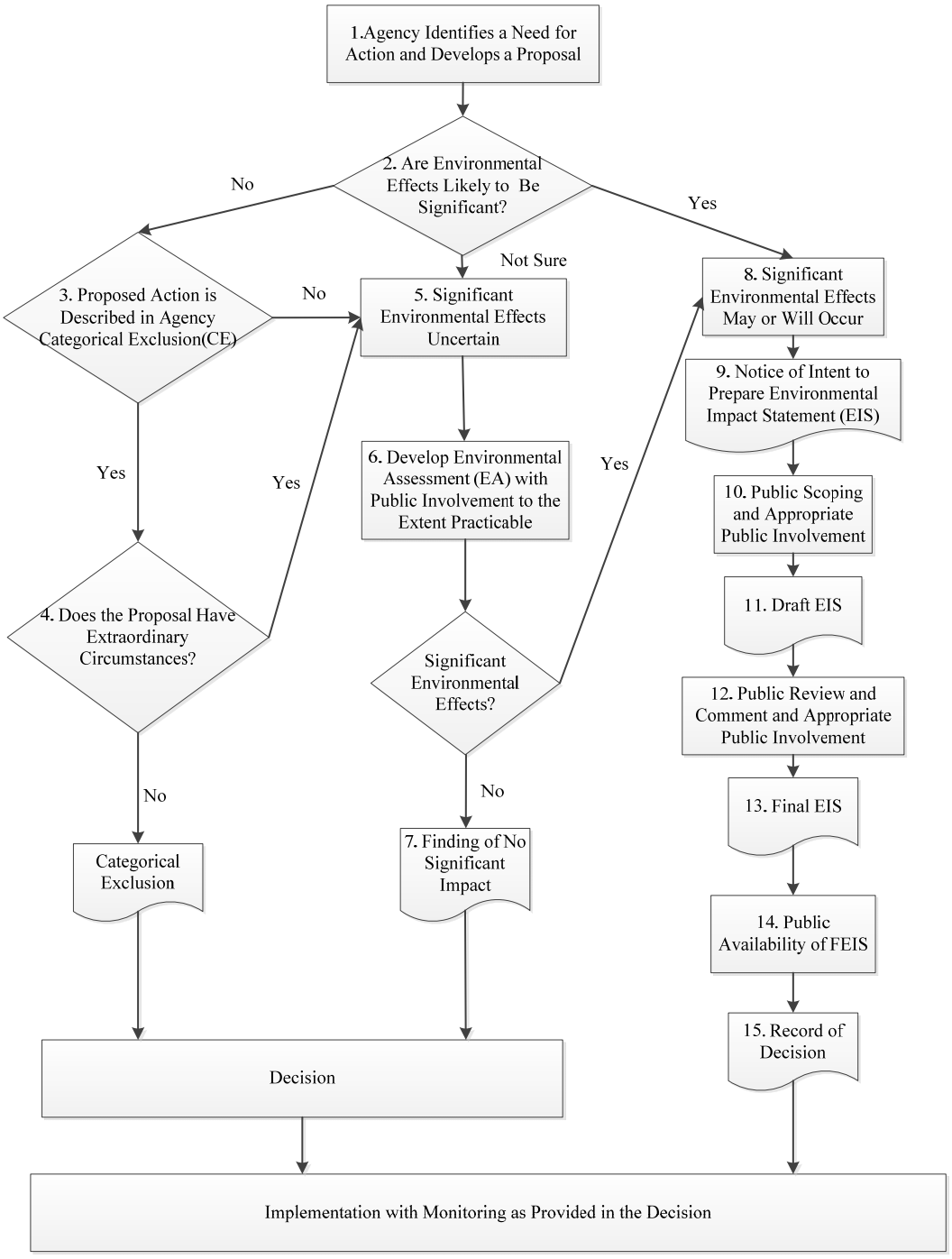


Figure 4. The NEPA process flow chart.

2.1.4 Current Practices of Integrating NEPA and Transportation Planning Processes

As part of this task, the research team reviewed existing documents/studies that describe the current practices of linking/integrating NEPA and transportation planning processes in other states. The

research team reviewed relevant information resources including NEPA regulations, the FHWA's Planning and Environment Linkages (PEL) initiative and its related publications, and reports by the National Cooperative Highway Research Program (NCHRP). The research team placed special emphasis on states that have recently developed a formalized/documented guidance on how to integrate transportation planning and NEPA processes. The research team reviewed existing documents/studies that describe the current practices of linking/integrating NEPA and transportation planning processes from four states: (1) Colorado, (2) Florida, (3) Indiana, and (4) Maine. A more detailed description of the integration efforts of these four states can be found in Appendix A4.

Illinois has also made several efforts to promote efficiency in the NEPA process within the state. During the past 10 years, IDOT has made three statewide implementation agreements with FHWA. The first statement was made in 2004 to establish timeframes for Environmental Impact Statements (EISs) and Environmental Assessments (EAs) to promote good project management, identify project delays, and improve project delivery efficiency (USDOT and FHWA 2010). Another statewide agreement was made in 2005 to establish a process to coordinate NEPA and Clean Water Act Section 404 review of transportation projects for the purpose of expediting project construction and ensuring projects are completed on time and schedule (IDOT 2010). The most recent statewide statement was made in 2008 to rebuild the development and approval of CEs into a streamlined and efficient process through classifying projects into two CE groups (IDOT 2010).

2.2 CASE STUDIES—DATA COLLECTION

In Task 1, the research team identified the efforts of integrating transportation planning and NEPA processes in Colorado, Florida, Indiana, and Maine; further evaluated their corresponding integrated processes in detail; and summarized the characteristics of their efforts.

In order to evaluate the impact of integration practices on the project development process, the research team collected project data from the four studied states. The research team identified 15 large highway projects with available public data. In addition to collecting data from the projects in the above four states, the research team also selected six large highway projects from Illinois for the purpose of establishing a set of baseline cases. These baseline cases could be used in the future (after the implementation of integration practices) for assessing the performance of integrated processes. In total the research team identified 21 projects from the five states as case study projects. Table 1 summarizes the distribution of projects by state.

Table 1. Distribution of Case Study Projects by State

State	Large Highway Project
Colorado	4
Florida	2
Indiana	6
Maine	3
Illinois	6
Total	21

The research team collected the following data for each case study project:

1. Coordination data: the number of leading agencies and cooperating agencies, the number of interagency meetings, and the number of document preparers.
2. Process performance data: the preparation and processing times for EAs and EISs, the number of alternatives that were analyzed in detail, and the EPA's rating of draft EISs.

3. Public involvement data: the length of public comment period once the EA/EIS is published, and the number of public hearings and meetings.
4. Other related project data: including the geographical location of the project, the size and type of the project, the cost of the project, and the level of environmental impact of the project.

The collected data are summarized in Appendix B.

CHAPTER 3 ANALYSIS OF LITERATURE REVIEW (TASK 4A)

In Task 1 (as described in Chapter 2), the research team conducted a comprehensive literature review of the (1) IDOT planning process, (2) MPO planning process, (3) NEPA process, and (4) practices of integrating NEPA into transportation planning processes in the four studied states (Colorado, Indiana, Florida, and Maine). In Task 4, the research team conducted an analysis of the literature review for the purpose of analyzing the integration practices of the four states and identifying potentially effective practices for consideration in Illinois. The research team analyzed the literature review by identifying the following based on the four studied states: (1) motivations for the integration efforts, which different state DOTs and MPOs aimed to address through the efforts of integrating NEPA into their planning processes; (2) potential areas of improvement; and (3) key integration elements/practices. The motivations for the integration efforts, potential areas of improvement, and key integration elements/practices were derived from the guidance documents of the streamlined processes of the four states. The analysis of the literature review also served as the basis for developing a set of draft questionnaires for the expert interviews (Task 3), which is addressed in Chapter 5.

3.1 MOTIVATIONS FOR THE INTEGRATION PRACTICES

Based on the literature review, the following issues within the four states were recognized as the motivations behind integrating NEPA into their transportation planning processes:

- Significant project decisions are made in the state DOT planning process prior to the initiation of the NEPA process
- Project alternatives that are discarded during state DOT planning studies are sometimes reevaluated during subsequent NEPA studies
- Significant project decisions are made in the state DOT planning process prior to the participation of Resource Agencies
- Resource Agencies are unfamiliar with the roles and responsibilities of state DOT in the transportation planning process
- Resource Agencies are unfamiliar with the roles and responsibilities of state DOT in the NEPA process
- Minimal considerations of environmental impacts of improvement strategies are given in developing the MPO's regional transportation plan
- Significant project decisions are made in the MPO planning process prior to the initiation of the NEPA process
- Project alternatives that are discarded during MPO's transportation planning studies are sometimes reevaluated during subsequent NEPA studies
- Significant project decisions are made in the MPO planning process prior to the participation of Resource Agencies
- No procedure for Resource Agencies to provide input in developing the MPO's regional transportation plan
- No measures to ensure that Resource Agencies are informed of the contents of the MPO's regional transportation plan and regional transportation improvement program in a timely manner
- Little incentives for MPOs to involve Resource Agencies in developing the MPO's regional transportation plan

- Resource Agencies lack funding to participate in developing the MPO's regional transportation plan
- Resource Agencies lack staff to participate in developing the MPO's transportation plan
- Resource Agencies are unfamiliar with the roles and responsibilities of MPOs in the transportation planning process
- Resource Agencies are unfamiliar with the roles and responsibilities of MPOs in the NEPA process

3.2 POTENTIAL AREAS OF IMPROVEMENT

Based on the literature review, the research team identified the following six areas as potential areas of improvement for achieving better integration of NEPA process and transportation planning processes:

- Streamlined processes for integrating NEPA and transportation planning processes that allow for early, continued, and in-depth agency participation; early identification of environmental impacts and concerns; and reduced durations and efforts of project delivery
- Data management and decision-making support tools that provide a platform for capturing Resource Agencies' input and facilitate the assessment of environmental impacts
- Performance/assessment metrics (possibly standardized) for evaluating environmental impacts quantitatively and prioritizing projects and alternatives
- Well-defined procedure for effective interagency coordination
- Legal/formalized framework that fosters early and continued involvement of agencies in the streamlined processes (e.g., Memorandums of Understanding [MOUs])
- Education, training, and outreach that provide state DOT, MPOs, Resource Agencies, and the general public with a common understanding of one another's roles and responsibilities in the streamlined processes

3.3 KEY INTEGRATION PRACTICES

Based on the literature review, the research team identified a set of key integration practices, and organized them according to the six groups of improvement areas defined above: (1) streamlined processes and early, continued, and in-depth agency participation; (2) data management and decision-making support tools; (3) assessment metrics; (4) effective interagency coordination; (5) legal/formalized framework; and (6) education, training, and outreach.

3.3.1 Streamlined Processes and Early, Continued, and In-depth Agency Participation

This group of integration practices included actions to establish the streamlined processes for integrating NEPA into transportation planning processes that would allow for early, continued, and in-depth agency participation; early identification of environmental impacts and concerns; and reduced durations and efforts of project delivery:

- Environmentally screen a project as early as the project is first proposed during the state DOT planning process
- Environmentally screen a project as early as the project is first proposed during the MPO planning process

- Involve Resource Agencies in environmentally screening projects during the MPO planning process
- Involve Resource Agencies in environmentally screening projects during the state DOT planning process
- Use the environmental assessments that were conducted during the MPO planning process as the basis for analyzing the affected environment in the NEPA process
- Use the environmental assessments that were conducted during the earlier state DOT planning process as the basis for analyzing the affected environment in the subsequent NEPA process
- Apply quantitative criteria and metrics when conducting environmental screening/assessments
- Establish procedures to facilitate the incorporation of MPO planning studies, analyses, or conclusions into the project-level NEPA environmental screening
- Establish procedures to facilitate the incorporation of DOT planning studies, analyses, or conclusions into the project-level NEPA environmental screening

3.3.2 Data Management and Decision-Making Support Tools

This group of integration practices included actions to develop/use data management and decision-making support tools that provide a platform for capturing Resource Agencies' input and facilitating the assessment of environmental impacts:

- Use data management systems for standardizing, storing, updating, and sharing project data and environmental data
- Use a GIS-based tool to assist in reviewing environmental data and conducting environmental screening/assessments/reviews

3.3.3 Assessment Metrics

This group of integration practices included actions to identify and use assessment metrics (possibly standardized) for assessing environmental impacts (possibly quantitatively):

- Establish and use standardized environmental criteria and metrics to quantitatively assess the environmental impacts of project alternatives

3.3.4 Effective Interagency Coordination

This group of integration practices included establishing well-defined procedure to ensure effective interagency coordination:

- Plan and conduct regular meetings with all partner agencies
- Develop a coordination plan for coordinating public and agency participation with a schedule for interagency meetings, public hearings, and important milestones of the streamlined processes
- Establish an environmental technical advisory committee to provide advice and coordinate transportation reviews for MPOs and state DOT
- Designate a coordinator in state DOT and every MPO to be responsible for the full implementation, interagency coordination, and public coordination of the streamlined processes

- Provide dedicated staff at Resource Agencies for cooperating/coordinating with state DOT and MPOs
- Establish milestone points for formal stakeholder concurrence
- Require formal agency review and comment at key milestones of the streamlined processes

3.3.5 Legal/Formalized Framework

This group of integration practices included establishing legal/formalized framework that fosters early and continued involvement of agencies in the streamlined processes:

- Develop MOUs with partner agencies to ensure early and continued agency involvement in the streamlined processes
- Develop Memorandums of Agreements (MOAs) with partner agencies ensure early and continuous agency involvement in the streamlined processes

3.3.6 Education, Training and Outreach

This group of integration practices included education, training, and public outreach that provide state DOT, MPOs, Resource Agencies, and the general public with a common understanding of one another's roles and responsibilities in the streamlined processes:

- Conduct workshops and/or webinars to provide state DOT, MPOs, Resources Agencies, and the general public with a common understanding of one another's roles and responsibilities in the streamlined processes.

CHAPTER 4 ANALYSIS OF CASE STUDIES (TASK 4B)

As an important part of the project development process, the NEPA process could have a direct impact on the length and the cost of the whole project. According to the NEPA Baseline Study for Evaluating the Performance of Environmental Streamlining conducted by Berger Group for FHWA (FHWA 2001), the NEPA process comprises approximately 27% to 28% of the total project development time, and a longer NEPA process is correlated with a longer project development process. Despite the correlation revealed by the study, the extent of impact of the NEPA process on the schedule and the cost of project delivery is still difficult to quantify.

To investigate the impact of integrating NEPA into transportation planning processes on the NEPA process, the research team identified 21 highway projects (15 from the four studied states and six from Illinois) as case study projects and collected their data. The research team classified the 21 projects into two groups: streamlined projects (projects implementing some form of streamlined transportation planning and NEPA processes) and traditional projects (projects not implementing streamlined processes). To assess the impact of adopting streamlined processes on the NEPA process, the research team compared the following factors of the two groups: (1) individual and average NEPA processing time, (2) average number of major alternatives analyzed in the Final Environmental Impact Statement (FEIS), (3) average number of interagency meetings, and (4) average number of public meetings. The research team applied descriptive statistical methods to the above factors in order to compare the streamlined group and the traditional group. To assess the impact of adopting streamlined processes on the NEPA processing time, the research team also compared the NEPA processing time of each project in both groups with the national median of NEPA processing time for the same completion year (data acquired from FHWA [FHWA 2012]). To further investigate the relationship between NEPA processing time and other factors, the research team conducted a set of correlation analyses between NEPA processing time and the other factors. Note, however, that the projects studied are not necessarily comparable, as they differ in terms of location, cost, complexity of project, complexity of environmental issues, etc. Also, several other factors (e.g., complexity of environmental issues), other than (or in addition to) the adoption of a streamlined process, may affect both the NEPA processing time and the project development process. Therefore, the results of the case study analysis may not be conclusive, and a discussion of other factors influencing the NEPA processing time is provided in Section 4.3.

4.1 DESCRIPTION OF DATA

In Task 3, in order to evaluate the impact of integration practices on the project development process, the research team collected project data from the four studied states: Colorado, Florida, Indiana, and Maine. The research team identified 15 large highway projects for which public data were available. In addition to collecting data from the projects in the above 4 states, the research team selected six large highway projects from Illinois for the purpose of establishing a set of baseline cases. These baseline cases could be used in the future (after the implementation of integration practices) for assessing the performance of integrated processes. In total, the research team identified 21 projects from the five states as case study projects.

In selecting the case study projects, the research team focused on projects with the following two characteristics:

- An Environmental Impact Statement (EIS) was prepared according to the requirements of NEPA
- The Record of Decision (ROD) was issued after the year 2004, so that project data would be available in the EPA's EIS Database.

The research team selected case study projects for which an EIS was prepared for two reasons:

- NEPA and transportation planning integration has the greatest applicability in EIS projects, which normally take longer than projects requiring other levels of environmental documentation pursuant to NEPA.
- Information on EIS projects was already available and fairly complete, whereas such information on EA or categorical exclusion (CE) projects was either not available or not complete.

The research team relied on the EIS Database (USEPA 2012) maintained by EPA as the main data source for the case studies. The EIS Database contains information on EISs prepared by federal agencies and filed after January 2004.

In total, the research team identified 21 projects from the five states as case study projects. This number is statistically significant to represent all the highway projects for which an EIS was filed since 2004 in the five states with 95% confidence level and 10% confidence interval. The population size (i.e., total number of highway projects for which an EIS was filed since 2004 in the five states) is 27 (USEPA 2012b). Table 2 summarizes the distribution of projects by state and group.

For each case study project, the research team collected the following data:

- NEPA processing time, defined as the time between the issuance of the Notice of Intent (NOI) in the Federal Register and the signing by FHWA of the project's ROD
- Number of major alternatives analyzed in the FEIS
- Number of interagency meetings during the NEPA process
- Number of public meetings and hearings during the NEPA process
- Estimated total project cost (in 2013 dollars)
- Type of process applied: streamlined process (some form of streamlined transportation planning and NEPA processes applied) versus traditional process (no streamlined processes applied)

Table 2. Distribution of Case Study Projects by State and Group

State	Total Number of Large Highway Projects	Number of Streamlined Projects	Number of Traditional Projects
Colorado	4	1	3
Florida	2	1	1
Indiana	6	5	1
Maine	3	1	2
Illinois	6	0	6
Total	21	8	13

4.2 DATA ANALYSIS

The 21 case study projects had an average estimated project cost of $889.42 million. As shown in Table 2, eight projects adopted streamlined NEPA and transportation planning processes and were classified into the streamlined group, while the remaining 13 projects were classified into the traditional group. As shown in Table 3 and Figure 5, the average NEPA processing time for all of the 21 case study projects was 75 months. The average NEPA processing time for projects in the streamlined group and the traditional group was 66 months and 80 months, respectively.

Table 3. NEPA Processing Time

Project Classification	NEPA Processing Time (months)	
	Mean	Standard Deviation
Overall	75	34.8
Streamlined	66	20.04
Traditional	80	41.28

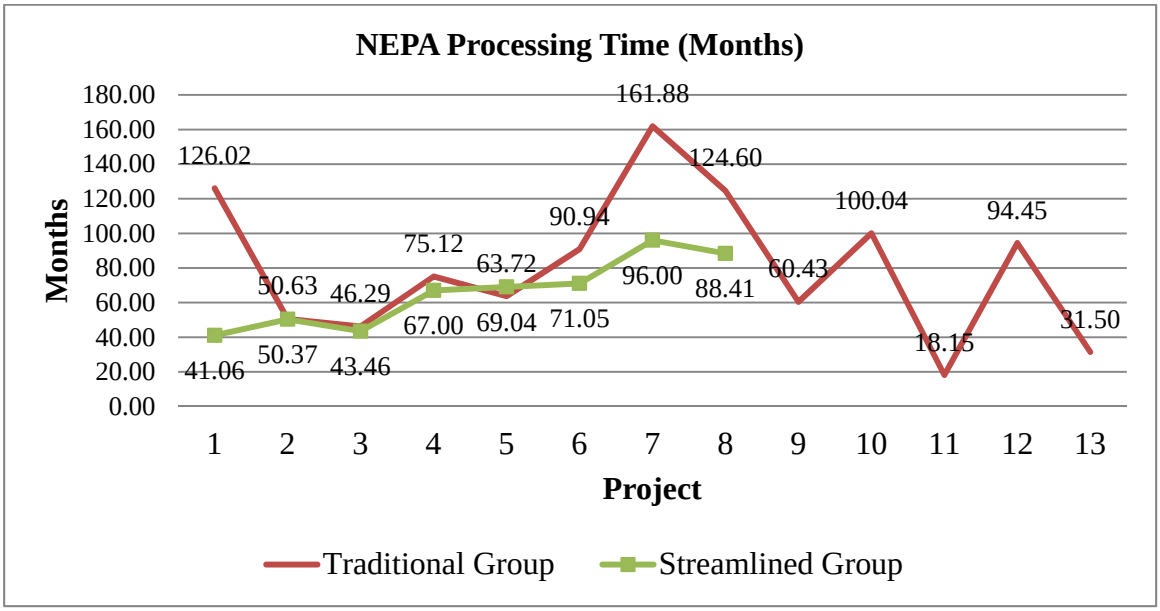


Figure 5. A comparison of NEPA processing time across both groups (streamlined group and traditional group).

The research team also compared the NEPA processing time of each project in the two groups with the national median of NEPA processing time for the same completion year, as shown in Figure 6 (data acquired from FHWA [FHWA 2012]). As illustrated in Table 4, among the 21 studied projects, 11 projects had a NEPA processing time shorter than the national median. Seventy five percent (75%) and 38% of the projects in the streamlined group and the traditional group, respectively, completed their NEPA process shorter than the national median.

As shown in Table 5, for all case study projects, an average of 5.76 alternatives were analyzed in their FEIS, while 5.50 and 5.92 alternatives were analyzed for the streamlined group and the traditional group, respectively.

As shown in Table 6, for all case study projects, an average of 35.9 interagency meetings were held during the NEPA process, with an average number of 35.25 and 36.33 meetings for the streamlined group and the traditional group, respectively.

As shown in Table 7, for all case study projects, an average of 23.48 public meetings and hearings were held during the NEPA process, with an average of 35.48 and 16.15 for the streamlined group and the traditional group, respectively.

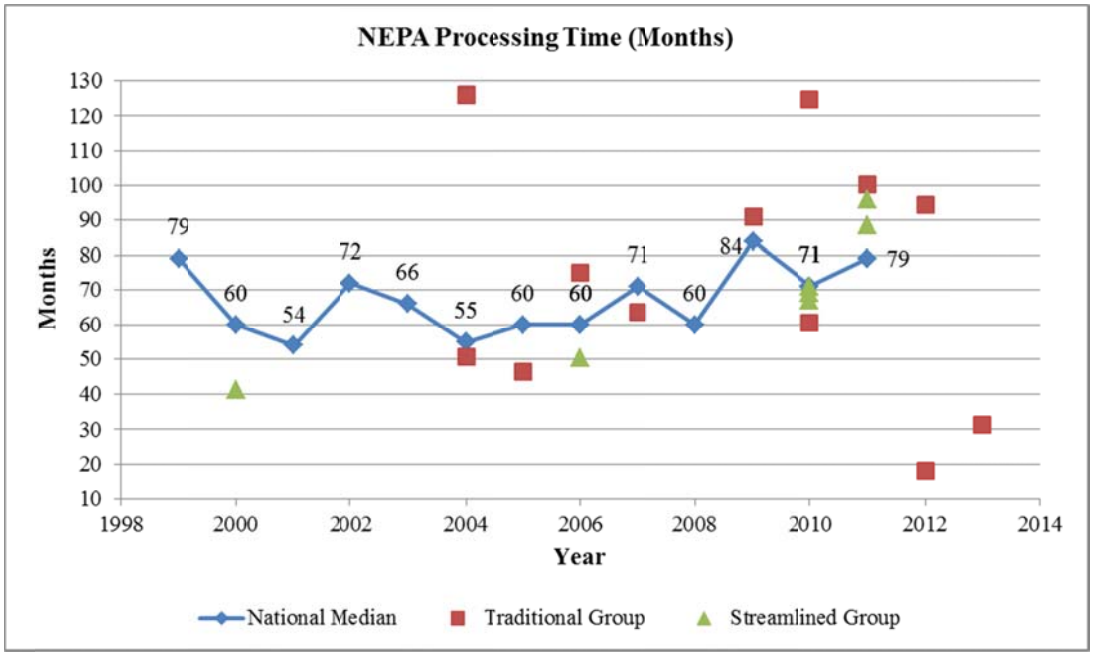


Figure 6. A comparison of NEPA processing time for the same year across the streamlined group, traditional group, and national median.

Table 4. NEPA Processing Time (Compared with National Median)

Project Classification	Number of Projects	# of Projects Shorter Than National Median*	# of Projects Longer Than National Median*	% of Projects Shorter Than National Median*	% of Projects Longer Than National Median*
Overall	21	11	7	52%	33%
Streamlined	8	6	2	75%	25%
Traditional	13	5	5	38%	38%

*These results exclude three projects for which the NEPA process was completed in the year 2012 and 2013, since the national medians of NEPA processing time are not available for 2012 and 2013.

Table 5. Number of Major Alternatives Analyzed in FEIS

Project Classification	Number of Major Alternatives Analyzed in FEIS	
	Mean	Standard Deviation
Overall	5.76	2.64
Streamlined	5.50	1.77
Traditional	5.92	3.12

Table 6. Number of Interagency Meetings

Project Classification	Number of Interagency Meetings	
	Mean	Standard Deviation
Overall	35.90	31.50
Streamlined	35.25	28.33
Traditional	36.33	34.68

Table 7. Number of Public Meetings and Hearings

Project Classification	Number of Public Meetings and Hearings	
	Mean	Standard Deviation
Overall	23.48	23.21
Streamlined	35.38	31.35
Traditional	16.15	13.12

The research team also conducted a set of correlation analyses to identify the factors associated (correlated) with adopting streamlined transportation planning and NEPA processes, using Pearson's *r* correlation coefficient (Pearson's *r*). The correlation coefficients of the factor pairs are shown in Table 8. Although not conclusive due to possible variability in project characteristics, these data suggest that adopting streamlined transportation planning and NEPA processes is correlated with:

- Shorter NEPA processing time.
- Fewer number of alternatives analyzed in the FEIS.
- Fewer numbers of interagency meetings. The difference in the number of interagency meetings could be interpreted as an indication that projects adopting streamlined processes have a higher efficiency of interagency coordination.
- More public meetings and hearings. The difference in the number of public meetings and hearings could be interpreted as an indication that projects adopting streamlined processes have a higher level of public involvement.

Table 8. Correlation Analysis (Streamlined Process Adopted and Other Factors)

Factor Pair	Pearson's *r*	Interpretation of Pearson's *r*
Streamlined process adopted and NEPA processing time	-0.21	Negative correlation
Streamlined process adopted and number of alternatives analyzed in FEIS	-0.08	Negative correlation
Streamlined process adopted and number of interagency meetings	-0.02	Negative correlation
Streamlined process adopted and number of public meetings and hearings	0.41	Positive correlation

To further investigate the association between NEPA processing time and other factors, the research team conducted a series of correlation analyses. The results of the analyses are shown in Table 9. Based on the results, the following factors were associated with a shorter NEPA processing time:

- Adopting streamlined processes
- Fewer major alternatives analyzed in the FEIS
- More interagency meetings
- More public meetings and hearings

Table 9. Correlation Analysis (NEPA Processing Time and Other Factors)

Factor Pair	**Pearson's *r***	**Interpretation of Pearson's *r***
NEPA processing time and streamlined processes adopted	–0.21	Negative correlation
NEPA processing time and number of major alternatives analyzed in FEIS	0.37	Positive correlation
NEPA processing time and number of interagency meetings	–0.12	Negative correlation
NEPA processing time and number of public meetings and hearings	–0.24	Negative correlation

4.3 OTHER FACTORS INFLUENCING THE NEPA PROCESSING TIME

In addition to the factors identified above, there are a number of other factors that may have an impact on the NEPA processing time. The FHWA conducted a series of research on the factors influencing the timeliness of the NEPA process. A summary of the results by FHWA is included in Appendix C.

CHAPTER 5 CONDUCT INTERVIEWS FOR EVALUATION OF POTENTIAL INTEGRATION PRACTICES (TASK 3 AND TASK 4C)

The research team worked on conducting a set of one-to-one expert interviews with staff from the following agencies to evaluate potential practices for integrating NEPA and transportation planning processes – for large-scale highway projects: IDOT (including IDOT Districts, IDOT Office of Planning and Programming, IDOT Bureau of Design and Environment), FHWA, MPOs, and Resource Agencies. Based on the analysis of the literature review (Task 4A), the research team first consolidated the identified integration practices into a set of concise questions, then used these questions to develop a set of draft survey questionnaires for conducting the interviews in a structured manner. In the March 11, 2013, TRP meeting, the research team discussed the draft survey questionnaires with the TRP. Based on comments/discussions during the meeting, the research team revised the questionnaires. The research team then conducted a set of one-to-one meetings with members from the TRP as well as experts from IDOT and MPOs to solicit more detailed input about existing and potential practices and accordingly revised/refined the questionnaires. One of the purposes of the meetings was to identify potential practices that would be applicable to Illinois. After the final questionnaires were approved by the TRP, the research team conducted the interviews. Four sets of questionnaires were used: (1) a set for IDOT Districts, (2) a set for MPOs, (3) a set for Resource Agencies, and (4) a set for IDOT Office of Planning and Programming, IDOT Bureau of Design and Environment, and FHWA. A total of 31 interviews were conducted.

5.1 SURVEY DESIGN

Each interview consisted of two parts. The first part covered a presentation about the motivation and scope of the project. In the second part, respondents were asked to complete the questionnaire. As mentioned above, four sets of questionnaires were used. Each questionnaire was composed of three main sections: (1) respondent information, (2) current situation, and (3) potential integration practices. The complete lists of questions in the four sets of questionnaires can be found in Appendix D.

Section 1 aimed at collecting the following respondent information: name, contact information, agency he/she represents, and years of experience. Figure 7 shows a snapshot of the respondent information page.

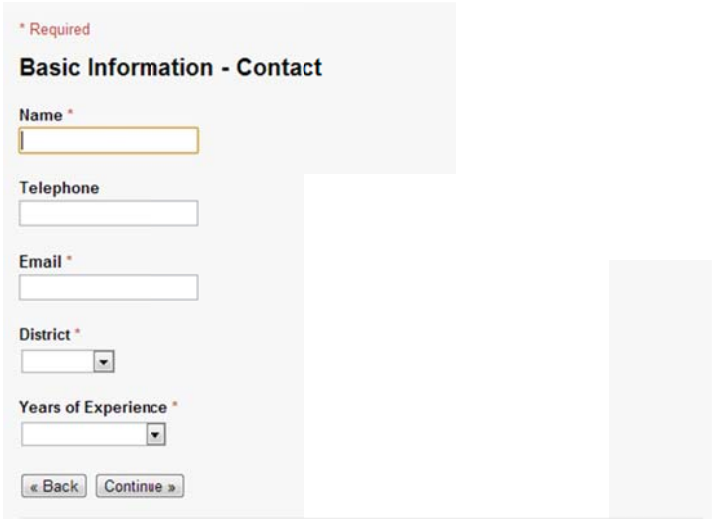


Figure 7. Questionnaire: A sample page from Section 1 (respondent information).

Section 2 aimed at collecting data about the current situation of the different agencies in terms of their transportation planning and NEPA processes, such as the environmental screening tool the agency uses and the planning studies the agency conducts. Figure 8 shows a sample from Section 2.

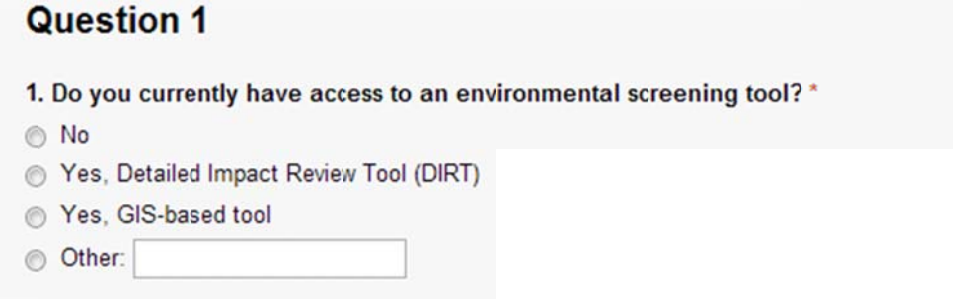


Figure 8. Questionnaire: A sample question from Section 2 (current situation).

Section 3 aimed at collecting data about the opinion of respondents about the recommended potential integration practices. A typical question starts with “Do you agree…?” and is followed by the recommended practice. A six-point Likert scale was used to record the responses, with six being the most favorable. Figure 9 shows a sample question from Section 3.

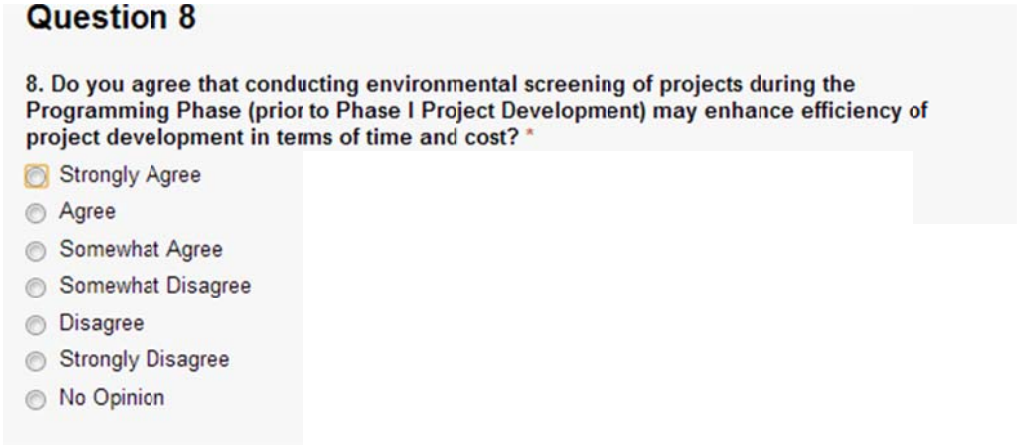


Figure 9. Questionnaire: A sample question from Section 3 (potential integration practices).

5.2 SURVEY RESULTS AND DATA ANALYSIS

The research team conducted a total of 31 one-to-one interviews including 21 face-to-face meetings and ten online meetings. The preferred method was face-to-face, and online was only used if so desired by the respondent. The following subsections summarize the results of the survey and their analysis. The detailed results of each survey question are included in Appendix E.

5.2.1 Respondent Information

The research team conducted a total of 31 survey interviews from 29 different agencies. A summary of the respondent information is shown in the Table 10.

Table 10. Summary of Respondent Information

Agency	Number of Respondents	Years of Experience	Agency Classification
IDOT District 1	1	Over 10 years	IDOT District
IDOT District 2	1	Over 10 years	IDOT District
IDOT District 3	1	Over 10 years	IDOT District
IDOT District 4	1	Over 10 years	IDOT District
IDOT District 5	1	Less than 1 year	IDOT District
IDOT District 6	1	Over 10 years	IDOT District
IDOT District 7	1	Over 10 years	IDOT District
IDOT District 8	1	Over 10 years	IDOT District
IDOT District 9	1	Over 10 years	IDOT District
FHWA	2	Over 10 years	IDOT and FHWA
IDOT	2	Over 10 years	IDOT and FHWA
Peoria/Pekin Urban Area Transportation Study	1	Over 10 years	MPO
McLean County Transportation Study	1	Over 10 years	MPO
Spring-Sangamon County RPC	1	Over 10 years	MPO
Chicago Metropolitan Agency for Planning	1	Over 10 years	MPO
Danville Area Transportation Study	1	Over 10 years	MPO
Decatur Urbanized Area Transportation Study	1	Over 10 years	MPO
DeKalb Area Transportation Study	1	Over 10 years	MPO
Dubuque Metro Area Transportation Study	1	Over 10 years	MPO
Kankakee Area Transportation Study	1	Over 10 years	MPO
Bi-State Regional Commission	1	Over 10 years	MPO
Rockford Metropolitan Agency for Planning	1	Over 10 years	MPO
Champaign/Urbana Area Transportation Study	1	Over 10 years	MPO
Illinois Historic Preservation Agency	1	Over 10 years	MPO
Illinois Environmental Protection Agency	1	Over 10 years	Resource Agency
Illinois State Museum	1	Over 10 years	Resource Agency
Illinois Department of Agriculture	1	Over 10 years	Resource Agency
Illinois State Archaeological Survey	1	Over 10 years	Resource Agency
Illinois Department of Natural Resources	1	Over 10 years	Resource Agency

5.2.2 Current Situation

5.3.2.1 Environmental Screening Tool

Based on the survey results, among the nine IDOT Districts, one District has access to GIS-based tool (ArcGIS) only, three Districts have access to Detailed Impact Review Tool (DIRT) only, and five Districts have access to both GIS-based tool and DIRT. For MPOs, among the 12 interviewed MPOs, nine MPOs have access to GIS-based tool (ArcGIS) only, two MPOs do not have access to any environmental screening tool, and one MPO has access to digital map only.

5.3.2.2 Environmental Screening During the Planning Phase

All of the 12 MPOs take environmental considerations into account when conducting their planning studies. But during the Planning Phase, only three MPOs conduct an environmental screening of projects when developing their Long-Range Transportation Plan (LRTP), while the other nine MPOs do not. Conducting environmental screening, here, refers to the review of environmental impacts of individual projects by comparing the locations of projects and the locations of resources, while taking environmental considerations into account can take a lot of forms and is not as detailed/well-defined as environmental screening. For the three MPOs, the environmental screening of projects is only high-level (i.e., not detailed) and mainly involves overlaying the initial scope of the project with the digital maps of environmental resources, and does not involve the use of any specific environmental screening tool. As for the timing of the screening, the three MPOs conduct environmental screening of priority projects once they have been selected for inclusion in the MPO's LRTP, but prior to the inclusion in the LRTP. As for the types of projects that get screened and the frequency of screening, the three MPOs conduct an environmental screening for system expansion projects only occasionally. During the interviews with the three MPOs, the research team also asked about whether MPOs coordinate with IDOT districts when conducting an environmental screening of projects during the Planning Phase, and the three MPOs all stated that they do not coordinate with IDOT Districts in terms of environmental screening.

For the nine MPOs that do not conduct environmental screening, the MPOs identified three main reasons for not conducting such screening: (1) proposed projects in the LRTP may not provide detailed information to conduct environmental screening, (2) proposed projects in the LRTP may not be implemented or be changed significantly as the LRTP covers a 25-year planning period, and (3) conducting environmental screening of projects is not the responsibility of planners at the MPO level.

5.3.2.3 Environmental Screening During the Programming Phase

Among the nine IDOT Districts, six Districts conduct environmental screening of projects during the Programming Phase (prior to Phase I Project Development), where two out of the six Districts use only DIRT, three use a combination of both DIRT and GIS-based tool (ArcGIS), and one uses Project Monitoring Application (PMA) to conduct the screening. As for the timing of the screening, one District screens a candidate project prior to the prioritization and selection of projects for inclusion in the multi-year program (MYP), while five Districts screen priority projects once they have been selected for inclusion in the MYP, but prior to the inclusion in the MYP. In terms of the types of the projects being screened, three Districts conduct environmental screening on system expansion projects only, while three Districts screen every type of project. As for the frequency of the screening, three Districts screen projects occasionally, while three Districts screen every project.

5.2.3 Potential Integration Practices

This section of the questionnaire aimed at soliciting respondent feedback about potential integration practices. Four types of potential integration practices were included: practices related to environmental screening during the Planning Phase, practices related to environmental screening

during the Programming Phase, practices related to conducting Corridor Studies and Feasibility Studies in compliance with NEPA, and practices related to early and continuous involvement and coordination. A typical question in this section starts with “Do you agree …?” and is followed by a recommended practice. A six-point Likert scale was used to record the responses to these questions, with six being the most favorable, as follows:

- Strongly Agree: 6
- Agree: 5
- Somewhat Agree : 4
- Somewhat Disagree: 3
- Disagree: 2
- Strongly Disagree: 1

For analyzing the results, the research team calculated the mean, standard deviation, median, and mode scores, for both the different respondent groups (IDOT Districts, MPOs, IDOT Central Office and FHWA, and Resource Agencies) and for all the responses. The interpretation of the results was based on the median scores. The following subsections provide a summary of the results. The detailed results of all questions are included in Appendix E, where the mean, standard deviation, median, and mode scores, for both the different respondent groups (IDOT Districts, MPOs, IDOT Central Office and FHWA, and Resource Agencies) and for all the responses are provided.

5.2.3.1 Environmental Screening During the Planning Phase

The questionnaire asked a series of questions about potential integration practices for conducting environmental screening during the Planning Phase (during the preparation of the MPO’s LRTP). The results of these questions are summarized in Table 11.

Table 11. Survey Results for Environmental Screening During the Planning Phase

Integration Practices	**Mean Score**	**Standard Deviation**	**Median Score**	**Mode Score**	**Overall Opinion of Respondents (Based on Median)**
Conducting environmental screening of projects during Planning Phase (during the preparation of the MPO’s LRTP)	3.58	1	4	3	Somewhat agree
Establishing and using standardized environmental criteria and metrics for environmental screening during Planning Phase	4.8	0.37	5	5	Agree

In terms of the following integration practice, the research team also identified the recommended actions to implement the practice based on the median of responses from all respondent

groups: “Conducting environmental screening of projects during the Planning Phase (during the preparation of the MPO’s LRTP),” as summarized in Table 12. The recommended time for conducting the first environmental screening is screening priority projects once they have been included in the MPO’s LRTP, and the recommended tool to use is a GIS-based tool, like ArcGIS. For environmental screening of projects, establishing and using standardized environmental criteria and metrics in environmentally assessing projects is recommended, and the recommended ways to disseminate the results of environmental screening are (1) uploading and storing the data in a Common Database, and 2) informing Phase I consultants, IDOT in-house staff, and Resource Agencies involved in the NEPA process.

As discovered from the discussions during the interviews, MPOs do not coordinate with IDOT Districts when conducting environmental screening of projects during the Planning Phase. As such, another recommended action would be to encourage MPOs to coordinate with IDOT Districts so that the results of the environmental screening could be passed to the IDOT Districts.

Table 12. Recommended Actions for Environmental Screening During the Planning Phase

Recommended Actions	**Responses**
Recommended time for conducting the first environmental screening	Screening priority projects once they have been included in the MPO’s LRTP
Recommended tool for conducting the first environmental screening	GIS-based tool (ArcGIS)
Establishing and using standardized environmental criteria and metrics	Agree
Recommended way(s) to disseminate the results of environmental screening	Uploading and storing the data in a Common Database
	Informing Phase I consultants, IDOT in-house staff, and Resource Agencies involved in the NEPA process

5.2.3.2 Environmental Screening During the Programming Phase

The questionnaire asked a series of questions about potential integration practices related to conducting environmental screening during the Programming Phase (prior to Phase I Project Development). The results of these questions are summarized in Table 13.

Table 13. Survey Results for Environmental Screening During the Programming Phase

Integration Practices	Mean Score	Standard Deviation	Median Score	Mode Score	Overall Opinion of Respondents (Based on Median)
Conducting environmental screening of projects during Programming Phase (prior to Phase I Project Development)	5	1	5	6	Agree
Establishing and using standardized environmental criteria and metrics during Programming Phase	4.94	0.77	5	5	Agree

As for the following integration practice, the research team also identified the recommended actions to implement the practice based on the median of responses from all respondent groups: "Conducting environmental screening of projects during the Programming Phase (prior to Phase I project development)," as summarized in Table 14. The recommended time for conducting the first environmental screening is screening a candidate project, at the District level, prior to the prioritization and selection of projects for inclusion in the MYP, and the recommended tool to use would be a GIS-based tool like ArcGIS. For environmental screening of projects, establishing and using standardized environmental criteria and metrics in environmentally assessing projects is recommended, and the recommended ways to disseminate the results of environmental screening would be (1) uploading and storing the data in a Common Database, and (2) informing Phase I consultants, IDOT in-house staff, and Resource Agencies involved in the NEPA process.

Table 14. Recommended Actions for Environmental Screening During the Programming Phase

Recommended Actions	Responses
Recommended time for conducting the first environmental screening	Screening a candidate project, at the District level, prior to the prioritization and selection of projects for inclusion in the multi-year program (MYP)
Recommended tool for conducting the first environmental screening	GIS-based tool (ArcGIS)
Establishing and using standardized environmental criteria and metrics	Agree
Recommended way(s) to disseminate the results of environmental screening	Informing Phase I consultants, IDOT in-house staff, and Resource Agencies involved in the NEPA process
	Uploading and storing the data in a Common Database

5.2.3.3 Conducting Corridor Studies and Feasibility Studies in Compliance with NEPA

This subsection of the questionnaire asked a set of questions about potential integration practices related to requiring Corridor Studies and Feasibility Studies to be conducted in compliance with NEPA requirements. The results of these questions are summarized in Table 15.

Table 15. Survey Results of Conducting Corridor Studies and Feasibility Studies in Compliance with NEPA

Integration Practices	Mean Score	Standard Deviation	Median Score	Mode Score	Overall Opinion of Respondents (based on median)
Conducting Corridor Studies and Feasibility Studies in compliance with NEPA requirements	4.65	1.17	5	5	Agree
Providing Phase I Consultants involved in corridor and/or Feasibility Studies with environmental screening information	4.83	0.72	5	5	Agree

5.2.3.4 Early and Continuous Involvement and Coordination

This subsection of the questionnaire asked questions about potential integration practices related to early and continuous involvement and coordination among different agencies participating in transportation planning and NEPA processes. The first question is a general question about interagency coordination, while the following ten questions are about specific actions that are aimed at promoting early and continuous involvement and coordination. The results of these questions are summarized in Table 16. The detailed results of these questions are included in Appendix E, where the mean, standard deviation, median, and mode scores, for the different respondent groups (IDOT Districts, MPOs, IDOT Central Office and FHWA, and Resource Agencies) and for all respondents are provided.

Table 16a. Survey Results of Early and Continuous Involvement Coordination Integration Practices, Part 1

Integration Practices	Mean Score	Standard Deviation	Median Score	Mode Score	Overall Opinion of Respondents (Based on Median)
Early and continuous involvement and coordination with IDOT/Districts, MPOs, Resource Agencies, and consultants may support the streamlining of transportation planning and environmental/NEPA processes, and in turn may enhance efficiency of project development in terms of time and cost	4.87	0.51	5	5	Agree
Ensuring early coordination between Districts and MPOs while preparing the LRTPs by MPOs	5.48	0.51	5	5	Agree
Engaging Resource Agencies in environmental screening during the Planning Phase and soliciting their feedback on potential environmental issues during the preparation of the LRTPs by MPOs	4.23	1.11	4	3	Somewhat agree
Engaging Resource Agencies in environmental screening during the Programming Phase and soliciting their feedback on potential environmental issues during the preparation of the MYP	4	0.64	4	4,5*	Somewhat agree
Establishing and using one Common Database for collecting, storing, updating, and accessing project data and environmental data	5	0.45	5	5	Agree

*The mode scores are 4 and 5.

Table 16b. Survey Results of Early and Continuous Involvement Coordination Integration Practices, Part 2

Integration Practices	Mean Score	Standard Deviation	Median Score	Mode Score	Overall Opinion of Respondents (Based on Median)
Developing Memorandums of Understanding (MOUs) or Programmatic Agreements (PAs) among agencies for supporting early and continuous involvement and coordination	4.87	0.63	5	5	Agree
Establishing interagency work groups, advisory groups, and/or committees for supporting early and continuous involvement and coordination.	4.55	0.78	5	5	Agree
Providing agencies with a common understanding of one another's roles and responsibilities (e.g., through webinars).	5.1	0.54	5	5	Agree
Designating a coordinator at every District to be responsible for the implementation of the streamlined NEPA/planning process and for interagency coordination.	4.68	0.65	5	5	Agree
Designating a coordinator at every MPO to be responsible for the implementation of the streamlined NEPA/planning processes and for interagency coordination.	4.55	0.83	5	5	Agree
Providing dedicated staff at Resource Agencies for cooperating and coordinating with IDOT/Districts and MPOs.	5.29	0.94	6	6	Strongly agree

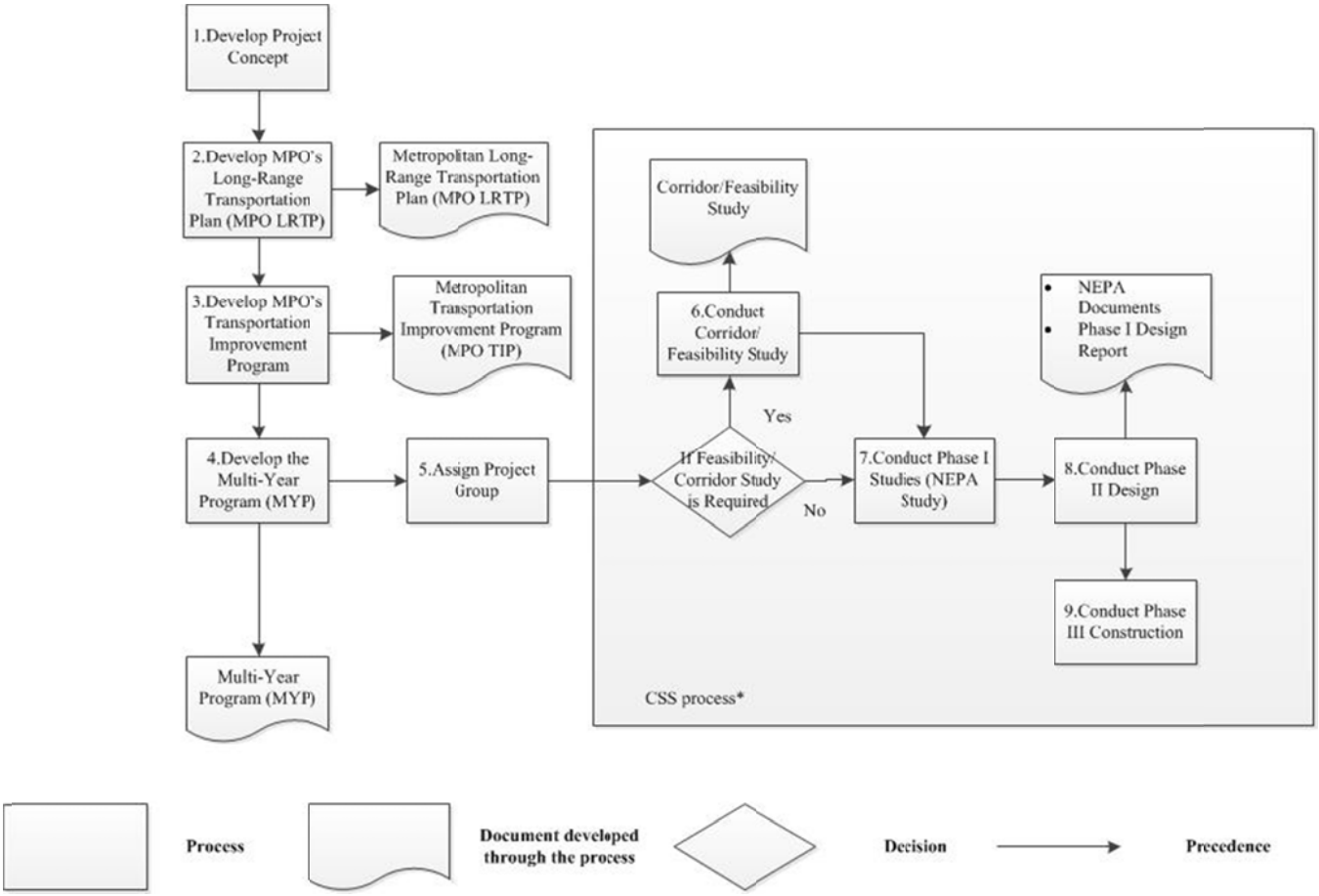
CHAPTER 6 PROPOSED INTEGREATED IDOT-MPO-NEPA PLANNING PROCESS (TASK 5)

In order to provide effective guidance on how to integrate NEPA into the IDOT planning process and the MPO planning process for large-scale highway projects, the research team developed the Integrated IDOT-MPO-NEPA Planning Process based on the results of Task 1 to Task 4. The research team first summarized the existing IDOT, MPO, and NEPA planning processes and developed a process flowchart based on: 1) the literature review of IDOT planning process, MPO planning process, and NEPA process (Task 1), 2) feedback from expert interviews (Task 3), and 3) feedback from meetings with members from the TRP and experts from MPOs. In the September 06, 2013 TRP meeting, the research team and the TRP discussed the key integration elements/practices that should be incorporated into the integrated process (based on the existing processes and the survey results [Task 3]). The research team then finalized the proposed Integrated IDOT-MPO-NEPA Process based on the analysis of the literature review, the case studies, and expert interviews (Task 4), and based on the TRP's recommendations during the meeting of September 06, 2013. To represent the integrated process, the research team developed a process flowchart and described each process in terms of inputs, outputs, and actors. The research team also described a set of associated collaboration-oriented integration practices (e.g. developing MOUs). The research team solicited further expert and TRP feedback on the integrated process, as part of Task 6. Based on the feedback, the research team revised the proposed Integrated IDOT-MPO-NEPA Planning Process. The revised Integrated IDOT-MPO-NEPA Planning Process is described in this chapter. A more detailed description of the Integrated IDOT-MPO-NEPA Planning Process, and guidance on how to implement it, is included in the Guidance Document (please refer to Chapter 8 and Appendix G).

6.1 ORIGINAL IDOT, MPO, AND NEPA PLANNING PROCESSES

In Task 1, the research team conducted a comprehensive literature review on IDOT planning, MPO planning, and NEPA processes. Based on the literature review, feedback from expert interviews (Task 3), and feedback from meetings with members from the TRP and experts from MPOs, the research team summarized the existing IDOT, MPO, and NEPA planning processes. The process flow chart is shown in Figure 10. A short description of the existing processes is provided in the following paragraph (IDOT 2010).

During the Planning Phase, a project originates from a project concept that aims at solving statewide or specific local transportation needs. After the project concept has been developed, it is submitted for consideration in the MPO's LRTP. After a project prioritization process, if the project involves major transportation investment, improvement or enhancement, it is then included in the MPO's LRTP. Before the project is submitted for inclusion in the IDOT's MYP, it is first included in the MPO's Transportation Improvement Program (TIP). When it comes to the Programming Phase, the project is submitted to IDOT districts for consideration in the IDOT's MYP. Once the project has been selected for inclusion in the MYP, a Project Group is assigned and starts developing the preliminary Purpose and Need. If IDOT decides that the project should follow the principles of Context Sensitive Solution (CSS), the CSS process will be initiated and should continue until the end of Phase III Construction. If the project requires a Corridor Study to investigate available corridors or a Feasibility Study to evaluate whether a future study is necessary, this will be conducted before the start of Phase I Studies. Phase I Studies are conducted to determine the specific alignments, profiles, and major design features of the proposed project with proper social, economic, and environmental considerations, and the NEPA study is part of the Phase I Studies. Following Phase I Studies, Phase II Design is conducted to prepare the final design and construction bid documents and ensure the project is ready for Phase III Construction.



* The Context Sensitive Solution (CSS) process is initiated after the Project Group is assigned and continues until the end of Phase III.

Figure 10. Original IDOT, MPO, and NEPA planning processes.

6.2 SUMMARY OF RECOMMENDED INTEGRATION PRACTICES

Based on the analysis of the literature review, the case studies, and expert interviews (Task 4), and based on the TRP's recommendations during the meeting of September 6, 2013, the research team recommended two types of interrelated integration practices: (1) process-oriented integration practices, and (2) collaboration-oriented integration practices.

The following is a summary of the recommended process-oriented integrating practices (further details are provided in Section 6.4):

- LRTP Preparation
    - Ensuring early coordination between Districts and MPOs while preparing the LRTPs by MPOs
    - Soliciting the feedback of Resource Agencies on potential environmental issues during the preparation of the LRTPs by MPOs
- Planning Screen

    - Conducting an environmental screening of priority projects, using a GIS-based tool, once they have been included in the MPO's LRTP
    - Engaging Resource Agencies in environmentally screening priority projects during the Planning Screen
    - Establishing and using standardized environmental criteria and metrics for environmentally assessing projects during the Planning Screen
    - Informing Phase I consultants, IDOT in-house staff, and Resource Agencies involved in the NEPA process of the results of the Planning Screen
    - Uploading and storing the data and results of the Planning Screen in a Common Database
- Multi-Year Program Preparation
    - Soliciting the feedback of Resource Agencies on potential environmental issues during the preparation of the MYP
- Programming Screen
    - Conducting an environmental screening of priority projects, at the District level and using a GIS-based tool, once they have been included in the IDOT's MYP
    - Engaging Resource Agencies in environmentally screening priority projects during the Programming Screen
    - Establishing and using standardized environmental criteria and metrics for environmentally assessing projects during the Programming Screen
    - Informing Phase I consultants, IDOT in-house staff, and Resource Agencies involved in the NEPA process of the results of the Programming Screen
    - Uploading and storing the data and results of the Programing Screen in a Common Database
- Corridor/Feasibility Studies Preparation
    - Conducting Corridor/Feasibility Studies in compliance with NEPA requirements
    - Providing Phase I consultants involved in preparing Corridor/Feasibility Studies with the data and results of the Planning Screen and Programming Screen

The following is a summary of the recommended collaboration-oriented integrating practices (further details are provided in Section 6.3):

- Common Database
    - Establishing and using one Common Database for collecting, storing, updating, and accessing project data and environmental data, where data/feedback is provided and accessed by IDOT/Districts, MPOs, Resource Agencies, and consultants
- Designated Coordinators
    - Designating a coordinator at every district to be responsible for the implementation of the integrated IDOT-MPO-NEPA Process and for interagency coordination
    - Designating a coordinator at every MPO to be responsible for the implementation of the Integrated IDOT-MPO-NEPA Process and for interagency coordination

- Dedicated Staff at Resource Agencies
    - Providing dedicated staff at Resource Agencies for cooperating and coordinating with IDOT/Districts and MPOs
- Interagency Advisory Groups
    - Establishing interagency work groups, advisory groups, and/or committees for supporting early and continuous involvement and coordination
- MOUs and Programmatic Agreements (PAs)
    - Developing MOUs or PAs among agencies for supporting early and continuous involvement and coordination
- Training and Outreach
    - Providing agencies with a common understanding of one another's roles and responsibilities

6.3 COLLABORATION-ORIENTED INTEGRATION PRACTICES

6.3.1 Common Database

To facilitate effective implementation of the Integrated IDOT-MPO-NEPA Planning Process, the research team recommends establishing and using one Common Database for collecting, storing, updating, and accessing project data.

The Common Database should include all relevant (i.e., relevant to the Integrated IDOT-MPO-NEPA Planning Process) project data at different milestones including the Planning Screen (described in Section 6.4.3), the Programming Screen (described in Section 6.4.6), the Corridor/Feasibility Study (described in Section 6.4.9), and the NEPA study (described in Section 6.4.10).

IDOT should take the lead in developing the Common Database and conducting routine maintenance (e.g. server or software) of the database, and other agencies should primarily provide and update the data in the Common Database.

The Designated Coordinators (described in Section 6.3.2) from MPOs and IDOT Districts are responsible for providing and updating the project data during the Planning Screen and Programing Screen. The data includes project description, resource data used in Planning Screen and Programming Screen, results of the standard GIS analyses, comments from Interagency Advisory Group (described in Section 6.3.4), Planning Screen Summary Report, and Programming Screen Summary Report.

The Project Group is responsible for providing and updating the project data during the Corridor/Feasibility Study and NEPA study. The data include the Corridor/Feasibility Study report, public comments on the Corridor/Feasibility Study, draft EA, final EA, public comments on draft EA, Finding of No Significant Impact (FONSI), NOI, draft EIS, public comments on draft EIS, final EIS, and ROD.

Environmental Coordinators (described in Section 6.3.3), Interagency Advisory Group, and other staff from IDOT/Districts, MPOs, Resource Agencies, and consultants would also have access to the Common Database.

6.3.2 Designated Coordinators

The research team proposes designating a coordinator at each IDOT District and at each MPO to be responsible for the implementation of the Integrated IDOT-MPO-NEPA Planning Process and for interagency coordination.

The main responsibilities of a Designated Coordinator from an MPO are (FDOT 2006a)

- Ensuring timely information flow between staff who participate in the Integrated DOT-MPO-NEPA Planning Process and staff who maintain the needed information within the MPO
- Ensuring timely exchange of project information between the MPO and the IDOT District in cooperation with appropriate staff
- Assisting the MPO in collecting project data, environmental, socioeconomic, and cultural resources data for the Planning Screen
- Maintaining a schedule for Interagency Advisory Group's (described in Section 1.4.4) review of the standard GIS analyses results during the Planning Screen
- Verifying that all inputs from the Interagency Advisory Group (described in Section 1.4.4) have been received by the MPO within the specified review period during the Planning Screen
- Monitoring the commentary from the Interagency Advisory Group and conducting personal communication to clarify issues or respond to questions during the Planning Screen
- Communicating the commentary from the Interagency Advisory Group to the appropriate staff and ensuring that the Interagency Advisory Group receives responses from the appropriate staff as the project advances during the Planning Screen
- Identifying actions that are necessary to advance the project based on the relevant commentary from the Interagency Advisory Group during the Planning Screen
- Uploading and updating the project data during the Planning Screen
- Assisting the MPO in developing the Planning Screen Summary Report in cooperation with Environmental Coordinators
- Ensuring that the Planning Screen Summary Report is forwarded to the Project Group once the project proceeds to a Corridor/Feasibility Study or Phase I Studies
- Ensuring that the Planning Screen Summary Report is forwarded to the IDOT District once the project proceeds to Programming Screen
- Assisting the Project Group in deciding the validity of the data of the Planning Screen
- Assisting the IDOT District in preparing the IDOT's MYP
- Assisting the IDOT District in collecting project data, environmental, socioeconomic, and cultural resources data for the Programming Screen

The main responsibilities of a Designated Coordinator from an IDOT District are

- Ensuring timely information flow between staff who participate in the Integrated IDOT-MPO-NEPA Planning Process and staff who maintain the needed information within the IDOT District
- Ensuring timely exchange of project information between MPOs and the IDOT District in cooperation with appropriate staff
- Assisting MPOs in preparing the MPO's LRTP

- Assisting MPOs in collecting project data, environmental, socioeconomic, and cultural resources data for the Planning Screen
- Assisting the IDOT District in collecting project data, environmental, socioeconomic, and cultural resources data for the Programming Screen
- Maintaining a schedule for Interagency Advisory Group's (described in Section 1.4.4) review of the standard GIS analyses results during the Programming Screen
- Verifying that all inputs from the Interagency Advisory Group (described in Section 1.4.4) have been received by the IDOT District within the specified review period during the Programming Screen
- Monitoring the commentary from Interagency Advisory Group and conducting personal communication to clarify issues or respond to questions during the Programming Screen
- Communicating the commentary from the Interagency Advisory Group to the appropriate staff and ensuring that the Interagency Advisory Group receives responses from the appropriate staff as the project advances during the Programming Screen
- Identifying actions that are necessary to advance the project based on the relevant commentary from the Interagency Advisory Group during the Programming Screen
- Uploading and updating the project data during the Programming Screen
- Assisting the IDOT District in developing the Programming Screen Summary Report in cooperation with Environmental Coordinators
- Ensuring that the Programming Screen Summary Report is forwarded to the Project Group once the project proceeds to a Corridor/Feasibility Study or Phase I Studies
- Assisting the Project Group in deciding the validity of the data of the Programming Screen

6.3.3 Dedicated Staff (Environmental Coordinators) at Resource Agencies

The research team also proposes providing dedicated staff at Resource Agencies as Environmental Coordinators responsible for cooperating and coordinating with IDOT/Districts and MPOs during the Integrated IDOT-MPO-NEPA Planning Process. The major responsibilities of an Environmental Coordinator are (FDOT 2006a)

- Ensuring timely exchange of information between the Resource Agency and MPOs as well as between the Resource Agency and IDOT Districts in cooperation with appropriate staff
- Providing feedback on potential environmental issues during the preparation of the LRTP
- Maintaining a schedule for Interagency Advisory Group's (described in Section 1.4.4) review of the standard GIS analyses results during the Planning Screen
- Maintaining a schedule for Interagency Advisory Group's (described in Section 1.4.4) review of the standard GIS analyses results during the Programming Screen
- Assisting MPOs in collecting environmental and cultural resources data for the Planning Screen
- Assisting IDOT Districts in collecting environmental and cultural resources data for the Programming Screen
- Assisting MPOs in developing the Planning Screen Summary Report
- Assisting IDOT Districts in developing the Programming Screen Summary Report

- Assisting Project Groups in deciding the validity of the information of the Planning Screen
- Assisting Project Groups in deciding the validity of the information of the Programming Screen
- Assisting Project Groups in evaluating reasonable corridors during Corridor/Feasibility Study
- Assisting Project Groups in identifying reasonable alternatives during Phase I Studies
- Assisting Project Groups in developing avoidance, minimization, and/or mitigation measures
- Providing guidance and technical support for specific environmental issues during the Integrated IDOT-MPO-NEPA Planning Process

6.3.4 Interagency Advisory Group

In order to support early and continuous involvement and coordination, the research team proposes establishing an Interagency Advisory Group for each of the nine IDOT Districts. The Interagency Advisory Group should consist of representatives from IDOT Districts, MPOs, Resource Agencies, IDOT Central Office, and FHWA. The Designated Coordinators from MPOs and IDOT Districts and Environmental Coordinators from Resource Agencies could also serve as the Interagency Advisory Group representatives, if necessary. A representative could also serve on more than one Interagency Advisory Group.

These representatives/members of the Interagency Advisory Group are responsible for coordinating reviews and communicating to support the Integrated IDOT-MPO-NEPA Planning Process on behalf of their agencies. The Interagency Advisory Group reviews proposed transportation projects to identify potential issues, provides guidance for addressing these issues, assists in future studies, and provides information about the environmental, socio-economic, and cultural resources. Unlike Designated Coordinators and Environmental Coordinators, who are responsible for the implementation and coordination of the entire Integrated IDOT-MPO-NEPA Planning Process, the major responsibilities of the Interagency Advisory Group are fulfilled during the Planning Screen and Programming Screen, and are summarized in Table 17 (FDOT 2006b).

After the Planning Screen and Programming Screen, the Interagency Advisory Group continues to support the Integrated IDOT-MPO-NEPA Planning Process by providing input and technical assistance for any technical studies they recommend during the Programming Screen. During Phase I Design, the Project Group will develop technical studies (such as noise and air quality study, water quality study, and wetlands study) to address the particular issues raised by the Interagency Advisory Group. The Interagency Advisory Group should review and accept these technical studies before the Project Group can summarize them in the study reports.

Table 17: A Comparison of Interagency Advisory Group Responsibilities During Planning Screen and Programming Screen

Interagency Advisory Group Responsibilities	Planning Screen	Programming Screen
Review and comment on the standard GIS analyses results conducted during the Planning Screen and Programming Screen	Yes	Yes
Evaluate and comment on known resource presence within the project area	Yes	No

Evaluate and comment on potential project effects on resources	No	Yes
Review other ancillary documents intended to support project review	Yes	Yes
Identify information gaps or data needed to support further evaluation	Yes	Yes
Recommend environmental studies (such as noise and air quality study, water quality study, and wetlands study) in support of focused project delivery	No	Yes
Identify and document anticipated permits that may be needed during the Integrated IDOT-MPO-NEPA Process	No	Yes
Assist IDOT and FHWA in determining the NEPA action of the project	No	Yes
Assist the IDOT District in developing an outline of the Purpose and Need for project development	No	Yes

After the Planning Screen and Programming Screen, the Interagency Advisory Group continues to support the Integrated IDOT-MPO-NEPA process by providing input and technical assistance for any technical studies they recommend during the Programming Screen. During Phase I Studies, the Project Group should develop technical studies (such as noise and air quality study, water quality study, and wetlands study) to address the particular issues raised by the Interagency Advisory Group. The Interagency Advisory Group should review and accept these technical studies before the Project Group can summarize them in the study reports.

6.3.5 Memorandums of Understanding (MOUs) and Programmatic Agreements (PAs)

The research team also recommends developing MOUs and/or PAs between IDOT, MPOs, and Resource Agencies for supporting early and continuous involvement and coordination with regards to the integrated process. The MOUs should outline how the Integrated IDOT-MPO-NEPA Planning Process would involve the respective agencies and ensure continuous agency participation. The MOUs should also provide agreement on which agencies require access to project and resource data in the Common Database for providing input into the integrated process.

6.3.6 Training and Outreach

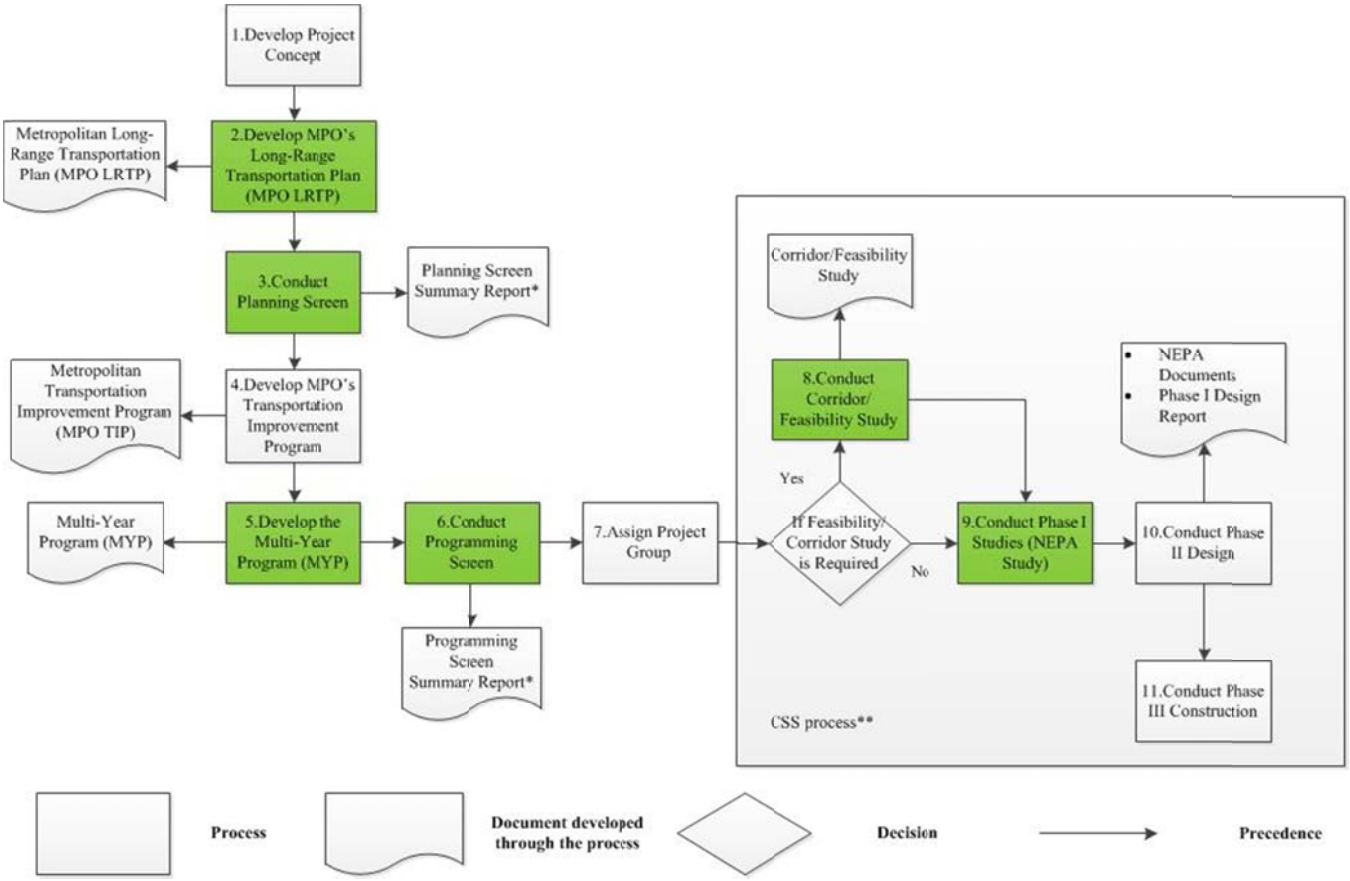
It is important for the agencies participating in the integrated process to have a good understanding of one another's roles and responsibilities to support better coordination, process management, flow of data, management of expectations, etc., across agencies. Therefore, the research team recommends that the IDOT Central Office should be responsible for coordinating with other agencies to implement the following training/outreach practices:

- Providing staff (especially Designated Coordinators and Environmental Coordinators) at IDOT, MPOs, and Resource Agencies with a common understanding of one another's roles and responsibilities through webinars and/or workshops
- Providing Interagency Advisory Group Members with a common understanding of one another's roles and responsibilities through regular group meetings.

The research team also recommends that these training and outreach practices be conducted initially face-to-face, and later through regular webinars.

6.4 INTEGRATED IDOT-MPO-NEPA PLANNING SUBPROCESSES

Based on the analysis of the literature review, the case studies, and the expert interviews (Task 4), and based on the TRP's recommendations during the meeting of September 06, 2013, the research team has proposed: (1) a set of collaboration-oriented integration practices (as discussed in Section 6.3) and, (2) a set of process-oriented integration practices (i.e., a set of subprocesses to foster integrated planning, which we call thereafter Integrated IDOT-MPO-NEPA subprocesses). Figure 11 shows a flow chart that summarizes the proposed subprocesses and their interactions, and the added or changed subprocesses (i.e., a subprocess is added or elements of a subprocess are changed, in comparison to existing processes) are highlighted with green color. Table 18 shows the inputs, outputs, and actors of each subprocess.



*The Planning Screen Summary Report and the Programming Screen Summary Report should be forwarded to the Project Group and stored in the Common Database.

**The Context Sensitive Solution (CSS) process is initiated after the Project Group is assigned and continues until the end of Phase III.

Figure 11. Proposed integrated IDOT-MPO-NEPA planning subprocesses.

Table 18a. Inputs, Outputs, and Actors (Responsible Agencies and Other Actors) of Each Subprocess of the Integrated IDOT-MPO-NEPA Process, Part 1

Subprocess	Inputs	Outputs	Responsible Agencies	Other Actors
Develop project concept	• Transportation need	• Project concept	• Local planning agencies • MPO • IDOT District • IDOT Central Office	• NA
Develop MPO's Long-Range Transportation Plan (LRTP)	• Project concepts • Project prioritization criteria	• LRTP	• MPO • IDOT District • IDOT Central Office	• Designated Coordinator from MPO • Designated Coordinator from IDOT District • Environmental Coordinators
Conduct Planning Screen	• Project, environmental, socioeconomic, and cultural data • Standardized criteria and metrics • Agency feedback	• Planning Screen Summary Report	• MPO • IDOT District • Resource Agencies	• Designated Coordinator from MPO • Designated Coordinator from IDOT District • Environmental Coordinators • Interagency Advisory Group
Develop MYP	• Project concepts • Project prioritization criteria	• MYP	• IDOT District • IDOT Central Office • MPOs	• Designated Coordinator from MPO • Designated Coordinator from IDOT District
Conduct Programming Screen	• Project, environmental, socioeconomic, and cultural data • Standardized criteria and metrics • Agency feedback	• Programming Screen Summary Report	• IDOT District • MPO • Resource Agencies	• Designated Coordinator from MPO • Designated Coordinator from IDOT District • Environmental Coordinators • Interagency Advisory Group
Assign Project Group	N/A	• Project Group	• IDOT District • IDOT Central Office	• NA

Table 18b. Inputs, Outputs, and Actors (Responsible Agencies and Other Actors) of Each Subprocess of the Integrated IDOT-MPO-NEPA Process, Part 2

Subprocess	Inputs	Outputs	Responsible Agencies	Other Actors
Conduct corridor/ feasibility study	• Purpose and Need • Planning Screen Summary Report • Programming Screen Summary Report • Project, environmental, cultural, and socioeconomic data • Agency feedback • Public feedback	• Corridor/ Feasibility Study report	• Project Group • IDOT District • IDOT Central Office • MPO • Resource Agencies • Consultants • General public	• Designated Coordinator from MPO • Designated Coordinator from IDOT District • Environmental Coordinators • Interagency Advisory Group
Conduct Phase I Studies (NEPA study)	• Purpose and Need • Planning Screen Summary Report • Programming Screen Summary Report • Corridor/Feasibility Study report • Project, environmental, cultural, and socioeconomic data • Agency feedback • Public feedback	• Phase I Studies plans and reports • NEPA documents	• Project Group • IDOT District • IDOT Central Office • FHWA • Resource Agencies • Consultants • General public	• Designated Coordinator from MPO • Designated Coordinator from IDOT District • Environmental Coordinators • Interagency Advisory Group
Conduct Phase II Design	• Phase I Studies reports • Project, environmental, cultural, and socioeconomic data	• Final design plans and reports	• Design squad • IDOT District • IDOT Central Office	• NA
Conduct Phase III Construction	• Final design plans and reports • Labors, materials, funds, and management	• Completed highway project	• Contractor(s) • IDOT District • IDOT Central Office	• NA

6.4.1 Develop Project Concepts

Projects originate from project concepts, which can come from different sources, including local planning agencies or MPOs, IDOT Districts, a bureau in the central office, or other sources targeting a

special need or a statewide need. The development of a project proposal typically involves, but not restricted to the following activities:

- "Establishing that there is, in fact, a need for the project;
- "Making a preliminary determination of the project scope of work;
- "Reviewing any available data and records;
- "Conducting an initial evaluation of right-of-way, utility, and environmental impacts and the likely level of environmental evaluation;
- "Developing a rough, preliminary cost estimate;
- "Determining a proposed schedule;
- "Developing a set of preliminary drawings/plans." (IDOT 2010)

6.4.2 Develop MPO's Long-Range Transportation Plan (LRTP)

In this step, IDOT and local planning agencies submit project concepts for consideration in the MPO's LRTP. As limited budgets require MPOs to spend available resources more wisely, a project prioritization process is necessary to choose appropriate projects. Project concepts submitted are then reviewed, evaluated, and ranked. The projects involve major transportation investments, improvements or enhancements will be included in the MPO's LRTP. *The MPO should coordinate with the IDOT District (through the Designated Coordinator from the IDOT District) and should also solicit the feedback of Resource Agencies (through the Environmental Coordinators) on potential environmental issues during the preparation of the LRTP.*

6.4.3 Conduct Planning Screen

Once the project is included in the MPO's LRTP, the MPO—in cooperation with the Designated Coordinator from the MPO, Designated Coordinator from the IDOT District, Environmental Coordinators, and Interagency Advisory Group—should conduct a Planning Screen, using a GIS-based tool, for analyzing the potential environmental, socioeconomic, and cultural effects of the proposed project.

The following is a descriptive summary of the main features of the Planning Screen:

- Conducting an environmental screening of priority projects, using a GIS-based tool, once they have been included in the MPO's LRTP
- Engaging Resource Agencies in environmentally screening priority projects during the Planning Screen
- Establishing and using standardized environmental criteria and metrics for environmentally assessing projects during the Planning Screen
- Informing Phase I consultants, IDOT in-house staff, and Resource Agencies involved in the NEPA process of the results of the Planning Screen
- Uploading and storing the data and results of the Planning Screen in a Common Database

The process for conducting the Planning Screen consists of four main steps, per following subsections.

6.4.3.1 Data Collection

The collection and organization of project data, environmental, socioeconomic, and cultural resources data is the basis for conducting the Planning Screen of proposed projects. The recommend lists of each type of data are shown below:

- Project description: project location, project type, project scope, project estimated duration, project estimated cost, and project written description
- Environmental resources: agricultural lands, air quality, natural resources, water resources and aquatic habitats, groundwater, floodplains, wetlands, and special lands
- Socioeconomic resources: population and demographics, employment characteristics, land use, public services/facilities, and communities
- Cultural resources: archaeological sites, historic sites, and historic districts and buildings (FDOT 2006a; IDOT 2010)

To facilitate data collection, the MPO can make use of the public GIS datasets for the State of Illinois. These public GIS datasets are summarized in Table 19. The MPO should also coordinate with the Designated Coordinator from the IDOT District and Environmental Coordinators, if/as necessary, to gather the data and information needed for the Planning Screen.

The Designated Coordinator from the MPO should create an entry of the project in the Common Database, and upload the collected data (data about project description, environmental resources, socioeconomic resources, and cultural resources) into the Common Database. The Designated Coordinator should upload the following metadata (data about the data): type of data, source of data, time associated with the data.

Table 19. Public GIS Datasets for the State of Illinois (UIS 2013)

Public Datasets	URL
Illinois Geospatial Data Clearinghouse	http://www.isgs.uiuc.edu/nsdihome/
Illinois Climate Network Data	http://www.sws.uiuc.edu/warm/cdflist.asp?typ=a
Invasive Plant Species in Illinois Forests	http://dnr.state.il.us/orep/ctap/invasive/
U.S. Fish and Wildlife Service	http://www.fws.gov/gis/data/national/index.html
City of Chicago GIS	http://www.cityofchicago.org/city/en/depts/doit/provdrs/gis.html.html
Chicago Police Department Citizen Law Enforcement Analysis and Reporting (CLEARMAP)	http://gis.chicagopolice.org/
The University of Chicago GIS Data	http://www.lib.uchicago.edu/e/su/maps/chigis.html
Illinois Rivers Decision Support System	http://ilrdss.sws.uiuc.edu/links/maps.asp
Illinois Department of Transportation: T2 GIS Data	http://gis.dot.illinois.gov/gist2/
Illinois County GIS Links	http://www.gis2gps.com/GIS/illcounties/illcounties.html

6.4.3.2 Standard GIS Analyses

Once the project, environmental, socioeconomic, and cultural data have been collected, the MPO should perform the standard GIS analyses, which compare the location of the project with locations of the environmental, socioeconomic, or cultural resources through quantifying resources within the area of the project (FDOT 2006a). These standard GIS analyses should be conducted following the established standardized criteria and metrics (described in Appendix 1 of the final Guidance Document [Appendix G]). Examples of such standard GIS analyses include computing the acreage of wetlands and the number of known historical and archaeological sites within the project area, quantifying demographic information within defined community boundaries, etc. The types of standard GIS analyses depend on the availability of data collected in the previous step, and the type of tool to conduct the GIS analyses. The recommended tool to conduct the standard GIS analysis is a Common Database using ArcGIS.

6.4.3.3 Evaluation of Known Resource Presence

After the MPO conducts the standard GIS analyses, the Designated Coordinator from the MPO should upload the results into the Common Database and submit the results to the Interagency Advisory Group for review and comments. Once receiving the GIS analyses results, the Interagency Advisory Group should evaluate the known resource presence based on the standard GIS analyses results. The evaluation includes performing the following tasks for each proposed project:

- Reviewing and commenting on the standard GIS analyses results conducted during the Planning Screen
- Evaluating the known resource presence within the project area based on the standard GIS analyses results
- Providing information about the resource status and potential resource issues or other key data that affect the project area
- Identifying information gaps or data needed to support further evaluation (FDOT 2006a)

The Designated Coordinator from the MPO and Environmental Coordinators are responsible for maintaining a schedule for Interagency Advisory Group responses and the Designated Coordinator from the MPO is also responsible for verifying that all inputs from the Interagency Advisory Group have been received by the MPO within the specified review period.

6.4.3.4 Planning Screen Summary Report

The Planning Summary Report summarizes the preliminary recommendations to assist planners to more effectively balance land use decisions and transportation investment with environmental, socioeconomic, and cultural resource considerations. After the Interagency Advisory Group finishes the evaluation of the proposed project, the MPO (in consultation with the Designated Coordinator from the MPO and Environmental Coordinators) is responsible for developing the Planning Screen Summary Report based on the input from the Interagency Advisory Group. The Planning Screen Summary Report should include the following contents:

- Project description
- Project location map
- GIS mapping depicting environmental, socioeconomic, and cultural resources
- GIS mapping depicting project relationship to resources
- Interagency Advisory Group comments and recommendations on resources
- Responses to the Interagency Advisory Group comments and recommendations

Once the MPO completes the Planning Screen Summary Report, the Designated Coordinator from the MPO should upload the report into the Common Database, and forward the summary report to the corresponding IDOT District when the project proceeds to Programming Screen and to the Project Group when the project proceeds to Corridor/Feasibility Study or Phase I Studies.

6.4.4 Develop Transportation Improvement Program (TIP)

Before the project gets included in the IDOT's MYP, it should first be included in the MPO's TIP. The MPO's TIP includes the most immediate implementation priorities of transportation projects. It covers a minimum three-year period and should be updated at least every two years.

6.4.5 Develop Multi-Year Program (MYP)

In order for the projects to get funded and implemented, project concepts are submitted to IDOT Districts for review and comment. The Districts should further refine the scope, cost, and schedule accordingly, and forward the refined project concepts to the IDOT Office of Planning and Programming. Based on a statewide assessment of highway improvement needs and available funds, the IDOT Office of Planning and Programming will select candidate projects and develop the IDOT's proposed MYP. This will establish an individual project as an active project for further development. *IDOT Districts should coordinate with MPOs (through the Designated Coordinators from MPOs) during the preparation of the MYP.*

6.4.6 Conduct Programming Screen

Once priority projects have been included in the IDOT's MYP, the IDOT District—in cooperation with the Designated Coordinator from the IDOT District, the Designated Coordinator from the MPO, Environmental Coordinators, and Interagency Advisory Group—should conduct the Programming Screen, using a GIS-based tool, for analyzing the potential environmental, socioeconomic, and cultural effects of a priority project. If a project was evaluated during a Planning Screen, then the IDOT District, Designated Coordinator from the IDOT District, Designated Coordinator from the MPO, Environmental Coordinators, and Interagency Advisory Group will update the Planning Screen results based on newly available data during the Programming Screen. For projects have not been screened, they will be evaluated for the first time during the Programing Screen.

The following is a descriptive summary of the main features of the Programming Screen:

- Conducting an environmental screening of priority projects, at the District level and using a GIS-based tool, once they have been included in the IDOT's MYP
- Engaging Resource Agencies in environmentally screening priority projects during the Programming Screen.
- Establishing and using standardized environmental criteria and metrics for environmentally assessing projects during the Programming Screen.
- Informing Phase I consultants, IDOT in-house staff, and Resource Agencies involved in the NEPA process of the results of the Programming Screen.
- Uploading and storing the data and results of the Programing Screen in a Common Database.

6.4.6.1 Data Collection

The IDOT District should collect project data, environmental, socioeconomic, and cultural resources data for a newly screened project or update these data if the project has been evaluated in a previous Planning Screen. The recommend lists of each type of data are shown below:

- Project description: project location, project type, project scope, project estimated duration, project estimated cost, and project written description
- Environmental resources: agricultural lands, air quality, natural resources, water resources and aquatic habitats, groundwater, floodplains, wetlands, and special lands
- Socioeconomic resources: population and demographics, employment characteristics, land use, public services/facilities, and communities
- Cultural resources: archaeological sites, historic sites, and historic districts and buildings (FDOT 2006; IDOT 2010)

To facilitate data collection, the IDOT District can make use of the public GIS datasets for the State of Illinois. These public GIS datasets are summarized in Table 20. The IDOT District should also coordinate with the Designated Coordinator from the MPO and Environmental Coordinators, if/as necessary, to gather data for the Programming Screen. If the project is a newly screened project, the Designated Coordinator from the IDOT District should create an entry of the project in the Common Database, and upload the respective collected data (data about project description, environmental resources, socioeconomic resources, and cultural resources) into the Common Database. The Designated Coordinator should upload the types of data collected, their sources, and the time period associated with the data. If the project has been previously screened during the Planning Screen, the Designated Coordinator from the IDOT District should update the data in the Common Database, if/as applicable.

Table 20. Public GIS Datasets for the State of Illinois (UIS 2013)

Public Datasets	URL
Illinois Geospatial Data Clearinghouse	http://www.isgs.uiuc.edu/nsdihome/
Illinois Climate Network Data	http://www.sws.uiuc.edu/warm/cdflist.asp?typ=a
Invasive Plant Species in Illinois Forests	http://dnr.state.il.us/orep/ctap/invasive/
U.S. Fish and Wildlife Service	http://www.fws.gov/gis/data/national/index.html
City of Chicago GIS	http://www.cityofchicago.org/city/en/depts/doit/provdrs/gis.html.html
Chicago Police Department Citizen Law Enforcement Analysis and Reporting (CLEARMAP)	http://gis.chicagopolice.org/
The University of Chicago GIS Data	http://www.lib.uchicago.edu/e/su/maps/chigis.html
Illinois Rivers Decision Support System	http://ilrdss.sws.uiuc.edu/links/maps.asp
Illinois Department of Transportation: T2 GIS Data	http://gis.dot.illinois.gov/gist2/
Illinois County GIS Links	http://www.gis2gps.com/GIS/illcounties/illcounties.html

6.4.6.2 Standard GIS Analyses

Once the project, environmental, socioeconomic, and cultural data have been collected, the IDOT District should perform the standard GIS analyses, which compare the location of projects with locations of the environmental, socioeconomic, or cultural resources through quantifying resources within the area of the project (FDOT 2006a). These standard GIS analyses should be conducted following the established standardized criteria and metrics (described in Appendix 1 of final Guidance Document [Appendix G]). Examples of such standard GIS analyses include computing the acreage of wetlands and the number of known historical and archaeological sites within the project area, quantifying demographic information within defined community boundaries, etc. The types of standard GIS analyses depend on the availability of data collected in the previous step, and the type of tool to

conduct the GIS analyses. The recommended tool to conduct the standard GIS analysis is a Common Database using ArcGIS.

6.4.6.3 Evaluation of Project Effects

After the IDOT District conducts the standard GIS analyses, the Designated Coordinator from the IDOT District should upload the results into the Common Database and submit the results to the Interagency Advisory Group for evaluating the potential effects of the proposed project on environmental, social-economic, and cultural resources. The evaluation includes performing the following tasks for each proposed project:

- Reviewing and commenting on the standard GIS analyses results conducted during the Programming Screen
- Evaluating the projects for different resources based on standard GIS analyses results
- Providing recommendations including avoidance, minimization, and/or mitigation measures that could reduce project effects on at-risk resources
- Providing information about the resources present and potential resource issues or other key data that affect the project area
- Identifying information gaps or data needed to support further evaluation
- Recommending environmental studies in support of focused project delivery
- Identifying and documenting anticipated permits that may be needed during the Integrated IDOT-MPO-NEPA Process
- Assisting FHWA and IDOT in determination of the Class of Action for the NEPA process
- Assisting the IDOT District in developing an outline of the scope of work for project development

The Designated Coordinator from the IDOT District and Environmental Coordinators are responsible for maintaining a schedule for Interagency Advisory Group responses and the Designated Coordinator from the IDOT District is also responsible for verifying that all inputs from the Interagency Advisory Group have been received by the IDOT District within the specified review period.

6.4.6.4 Programming Screen Summary Report

The Programming Summary Report summarizes key comments, conclusions, and recommendations for potential project effects on resources. After the Interagency Advisory Group finishes the evaluation of the proposed project, the IDOT District (in consultation with Designated Coordinator from the IDOT District and Environmental Coordinators) is responsible for developing the Programming Screen Summary Report based on the input from the Interagency Advisory Group. The Programming Screen Summary Report includes the following contents:

- Project description
- Project location map
- GIS mapping depicting environmental, socioeconomic, and cultural resources
- GIS mapping depicting project relationship to resources
- Interagency Advisory Group comments, conclusions, and recommendations for potential project effects on resources

- Responses to the Interagency Advisory Group comments, conclusion, and recommendations
- Class of Action determination
- Outline of Purpose and Need

Once the IDOT District completes the Programming Screen Summary Report, the Designated Coordinator from the IDOT District should upload the report into the Common Database, and forward the Summary Report to the corresponding Project Group when the project proceeds to Corridor/Feasibility Study or Phase I Studies.

6.4.7 Assign Project Group

After the project is included in the IDOT's MYP, a Project Group within the district Bureau of Program Development should be assigned to initiate the Corridor/Feasibility Study or the Phase I Studies. Different number and expertise of staff should be initially assigned according to the scope and nature of the proposed project. The study group engineers should lead the project through the Phase I Studies process and should assume the following responsibilities:

- Coordinating directly with other units within IDOT
- Attending all internal meetings and field inspections
- Ensuring that the project study meets all IDOT criteria and procedures
- Reporting directly to the district Program Development Engineer on all significant project activities, problems, and developments
- Participating in the public involvement process (IDOT 2010)

6.4.8 Conduct Context Sensitive Solution (CSS) Process

Once the project is included in IDOT's proposed MYP and its scope has been defined, and once IDOT has decided that the project is to be developed using the principles of CSS, the Project Group should be informed and adopt the stakeholder involvement process for public involvement. The details about the public involvement process can be found from the CSS guidance (IDOT 2011) developed by IDOT. The Project Group should assist the district in developing a preliminary list of stakeholders and expand the list as Phase I Studies continues, if/as needed. After a preliminary list of stakeholders is compiled, the Project Group should develop a Stakeholder Involvement Plan (SIP) that identifies who the stakeholders are, how they are going to be reached, and a tentative schedule of meetings. The Project Group needs to conduct initial information meetings with stakeholders to explain the ground rules of the stakeholder involvement process, and present its vision of the transportation problem and preliminary proposed solutions. To further assure congruence between the IDOT's assessment of the problem(s) to be addressed and those recognized by the community, the Project Group should solicit stakeholders' understandings about the existing transportation problems as inputs for developing the project Purpose and Need. During the Phase I Studies, the Project Group should continue soliciting inputs from stakeholders when developing preliminary alternatives, and gathering feedback from the stakeholders when refining and eliminating alternatives. When deciding on the preferred alternative, the Project Group needs to ensure that all reasonable concerns have been addressed and all conflicts resolved. Throughout the stakeholder involvement process, the goal of the Project Group is to reach consensus on the project Purpose and Need, project scope, and design elements among all the stakeholder groups and IDOT.

6.4.9 Conduct Corridor/Feasibility Study

A Corridor Study is initiated to investigate all feasible corridors within a regional area as determined by the route planning process and is typically required for a major highway project on new location of significant length and having multiple available corridors. A Feasibility Study is conducted to evaluate whether a proposed highway improvement warrants further study. In some cases, a Corridor Study could be considered as a Feasibility Study.

The integration of Corridor/Feasibility Study and the NEPA study can be achieved in two ways: (1) "tiering" and (2) conducting a Corridor/Feasibility Study in compliance with NEPA (per following sections). It is recommended that the Project Group integrates the Corridor/Feasibility Study with the NEPA study through tiering, which allows the Project Group to conduct two or more rounds or tiers of environmental review. In Tier 1, the Project Group typically prepares an EIS that analyzes all feasible corridors. In Tier 2, the Project Group prepares "one or more additional NEPA documents, which examine individual projects or sections in greater detail" (B Americas, Inc. and Perkins Coie LLP 2009). If the Project Group chooses not to do tiering, the Project Group should follow the guidance of this section to conduct the Corridor/Feasibility Study in compliance with NEPA requirements.

In order to incorporate the effort and results of the Corridor/Feasibility Study into the successive NEPA study, the Project Group should conduct the Corridor/Feasibility Study in compliance with the NEPA requirements (i.e., the Corridor/Feasibility Study should meet both the NEPA regulatory requirements and documentation requirements.

The following is a descriptive summary of the main added features to the Corridor/Feasibility Study preparation:

- Conducting Corridor/Feasibility Study in compliance with NEPA requirements
- Providing Phase I consultants involved in preparing Corridor/Feasibility Study with the data and results of the Planning Screen and Programming Screen

6.4.9.1 Meeting NEPA Regulatory Requirements

While the Project Group is responsible for developing the Corridor/Feasibility Study, *the Federal Highway Administration (FHWA) is ultimately responsible for ensuring NEPA compliance of transportation projects and therefore should make the final determination whether the results or decisions of the Corridor/Feasibility Study can be used as part of the NEPA process or not (USGPO 2004)*. As a fundamental matter, the Corridor/Feasibility Study must meet the regulatory requirements for use of a Corridor/Feasibility Study in NEPA. The NEPA regulations that the Project Group should comply with when conducting the Corridor/Feasibility Study are:

- National Environmental Policy Act of 1969 (USGPO 2006)
- 40 CFR Part 1500, CEQ Regulations for Implementing NEPA (USGPO 2012)
- 23 CFR Part 450, Statewide Transportation Planning: Metropolitan Transportation Planning (USGPO 2004)
- 23 CFR Part 771, Environmental Impact and Related Procedures (USGPO 2005)
- Appendix A to 23 CFR Part 450-Linking the Transportation Planning and NEPA Processes (UGPO 2004)
- SAFETEA-LU (Public Law 109-59) Environmental Review Process FHWA/FTA Final Guidance (USGPO 2007)
- FHWA Technical Advisory T 6640.8A, October 30, 1987 Guidance for Preparing and Processing Environmental and Section 4(f) Documents (FHWA 1987)

6.4.9.2 Meeting NEPA Documentation Requirements

The Integrated IDOT-MPO-NEPA Planning Process can take considerable time and involves many individuals, agencies, and stakeholder groups. From the Corridor/Feasibility Study through the NEPA study, there might be staff turnover, and even if there is no staff turnover, it is common for different staff to be involved at the NEPA study stage. In these cases, the individuals instrumental to Corridor/Feasibility Study decisions can be difficult to reach and the analyses or decisions made in the Corridor/Feasibility Study are unnecessarily revisited when project-level NEPA study begins. Therefore, good documentation that meets NEPA documentation requirements could avoid duplication of work and help the Project Group better use the Corridor/Feasibility Study to inform the NEPA study. Good documentation should at least meet the following basic requirements:

- Explaining the thought process underlying analytical conclusions and decisions, particularly when alternatives are analyzed and screened or eliminated
- Describing the information used at the Corridor/Feasibility Study stage, including what the information is, how current or complete it is, and how reliable it is over time
- Documenting the public and agency involvement activities during the Corridor/Feasibility Study process (FHWA 2011)

It is recommended that the Project Group uses the following documentation tools to ensure that the Corridor/Feasibility Study meets NEPA documentation requirements: (1) the Corridor/Feasibility Study and NEPA Linkages Questionnaire and (2) Corridor/Feasibility Study Checklist. The first tool is the Corridor/Feasibility Study and NEPA Linkages Questionnaire, which is intended to:

- Inform the Project Group about the requirements and options to consider while developing the Corridor/Feasibility Study with a goal to inform the NEPA process
- Document and share relevant Corridor/Feasibility Study information with NEPA practitioners to “build understanding about a project—both the information studied and areas that require more analysis” (FHWA 2011)

At the beginning of the Corridor/Feasibility Study, the Project Group is given the questionnaire that contains questions that should be used as a guide throughout the Corridor/Feasibility Study process to ensure its compliance with NEPA regulatory and documentation requirements. The Project Group should answer these questions as the Corridor/Feasibility Study process proceeds. At the end of the Corridor/Feasibility Study, the Project Group completes the questionnaire, and the completed questionnaire would act as a summary of the Corridor/Feasibility Study process and ease the transition from Corridor/Feasibility Study to NEPA. If FHWA uses the questionnaire to determine whether the Corridor/Feasibility meets the NEPA requirements, the questionnaire should be included in the planning document as an executive summary, chapter, or Appendix (FHWA 2011).

A sample Corridor/Feasibility and NEPA Linkage Questionnaire, which is adapted from the Planning/Environmental Linkages Questionnaire developed by the Colorado DOT and FHWA Colorado Division Office, is included in Appendix 4 of the Guidance Document (Appendix G).

The second tool is Corridor/Feasibility Study Checklist, which provides guidance on the development and documentation of a Corridor/Feasibility Study to ensure that it is conducted in a way that is in compliance with NEPA regulatory and documentation requirements. The checklist can be used as guidance at the beginning of the Corridor/Feasibility Study, and for confirmation at the end of the study. A sample Corridor/Feasibility Study Checklist, which is adapted from the Corridor Planning Study Checklist developed by the Montana DOT (Cambridge Systematics 2009), is included in Appendix 5 of the Guidance Document (Appendix G).

6.4.10 Conduct Phase I Studies (NEPA Study)

Based on the general project concept, and the project Corridor/Feasibility Study (if applicable), the Project Group should identify preliminary alignments as the starting point of Phase I Studies. If the project Corridor/Feasibility Study has been conducted, the Project Group should review the Corridor/Feasibility Study report and examine its validity. The Project Group should assess any changes in the project as well as environmental and socioeconomic information to determine if corridor modification should be considered.

The NEPA study should be conducted concurrently with Phase I Studies. Depending on the project impact, the NEPA study may involve either an EA or an EIS.

The Project Group needs to consider the following factors when determining whether or not to use the Corridor/Feasibility Study in the NEPA study:

- The age, relevance, and reliability of the Corridor/Feasibility Study, its data, and its analysis
- Whether assumptions made in the Corridor/Feasibility Study are consistent with those to be used in the NEPA analysis
- Inclusion of relevant stakeholders in the Corridor/Feasibility Study process, and how well the links and distinctions between the Corridor/Feasibility Study and NEPA processes were explained
- Availability of the Corridor/Feasibility Study for review and/or incorporation into the NEPA document
- The lead agencies' intention to incorporate the Corridor/Feasibility Study to NEPA study (FHWA 2011)

If the Project Group determines to incorporate the Corridor/Feasibility Study in the NEPA study by reference, in the NEPA document they need to:

- "Identify the alternatives eliminated during the Corridor/Feasibility Study, including the broad categories of alternatives eliminated by a study's definition of a general travel corridor or general modes;
- "Summarize the reasons for the elimination of those alternatives; and
- "Summarize the analysis and document the FHWA evaluation that supports the elimination of alternatives by referencing relevant sections of the planning study and then accurately incorporating the study into the NEPA document by reference or by appending it." (FHWA 2011)

If the Project Group determines to use the Corridor/Feasibility Study in the NEPA study, and an EIS is to be prepared, the connection between Corridor/Feasibility Study and NEPA study can be made through the NOI. To achieve linkage between Corridor/Feasibility Study and NEPA study, the NOI should refer to the relevant Corridor/Feasibility Study information that the lead agency proposes to use in NEPA, such as the Purpose and Need, or the range of alternatives studied (FHWA 2011)

The Project Group must gather and inventory engineering, environmental, socioeconomic, and cultural data on each alignment for further analysis. At this time, the Project Group is also provided with the data and the summary reports of the project's Planning Screen and Programming Screen, and with access to the Common Database.

On the basis of the project scope, location, and available data, the Project Group in cooperation with IDOT Bureau of Design and Environment (BDE) should determine if further environmental field work is necessary to further evaluate the location, nature, and/or extent of potential resource involvement. The Project Group should work closely with BDE to determine when environmental field

surveys should begin to appropriately fit the surveys into the project schedule and the field season. Some environmental surveys are specific to certain times of the year. Field surveys are essential to making an informed decision. The BDE should also coordinate with Resource Agencies, if/as necessary.

Using the collected data and the field survey results, the Project Group should review and identify the project existing conditions and reduce the number of alternatives to a reasonable number that is representative of the spectrum of possible alternatives that satisfy the project Purpose and Need. The Project Group should coordinate with the Designated Coordinators and Environmental Coordinators, if/as necessary, in identifying reasonable alignments and gathering data. If the Interagency Advisory Group recommends developing environmental studies to address particular issues raised during the Programming Phase, the Project Group should submit the environmental studies to the Interagency Advisory Group for review and acceptance before summarizing it in the study report. The Project Group should also conduct a series of public involvement activities including informing and updating the public of Phase I Studies status and soliciting public input and comments. The Project Group should then plot existing/proposed topography, typical sections, plan, and profile for each reasonable alignment.

After reasonable alignments have been identified and the information is plotted on the plan sheets, further in-depth analyses will be necessary to assess the capability of each alternative to accomplish the project goals cost-effectively. Once the analyses of reasonable alignments are completed, the Project Group should identify a recommended alignment considering the engineering factors; environmental, socioeconomic, and cultural impacts; and public input.

After the recommended alignment has been selected, the Project Group should prepare a number of technical reports to complete Phase I Studies:

- Preliminary Drainage Report;
- Frontage Road/Service Drive and Access Road Justifications
- Grade Separation/Road Closure Analysis
- Crash Analysis Report Along Existing Route
- Transportation Management Plan (TMP) Report
- Preliminary Pavement Design Report
- Noise and Air Quality Report
- Water Quality Technical Report
- Biological Assessment or Detailed Action Report
- Geotechnical (Soils) Report (IDOT 2010)

6.4.11 Conduct Phase II Design

In Phase II Design, the responsibility of advancing the project should be transferred to the design squad within the IDOT District or to a consultant. The detailed guidance on conducting Phase III Design can be found in IDOT's Bureau of Design and Environment Manual (IDOT 2010).

6.4.12 Conduct Phase III Construction

Once the project design has been finalized, land acquisition has been completed, and a contractor is awarded, Phase III Construction is initiated. Construction may require a few months to several years depending on the complexity of the construction.

6.5 EVALUATION OF THE INTEGRATED IDOT-MPO-NEPA PLANNING PROCESS

The research team recommends using two categories of performance measures to evaluate the performance of the Integrated IDOT-MPO-NEPA Planning Process: 1) interagency coordination and communication performance measures, and 2) project delivery performance measures. The evaluation is conducted based on the data of all projects that were conducted following the Integrated IDOT-MPO-NEPA Planning Process and completed within a certain time period.

6.5.1 Interagency Coordination and Communication Performance Measures

This category includes a set performance measures to evaluate the Integrated IDOT-MPO-NEPA Planning Process in terms of interagency coordination and communication. The quantitative and qualitative performance measures and their information sources in this category are shown in Table 21 (FDOT 2005). A set of Proposed Standards of Measure (i.e., what level of performance meets expectations, what needs improvement, and what is below expectations) is included in Appendix 3 of the Guidance Document (Appendix G).

Table 21: Interagency Coordination and Communication Performance Measures

Performance Measures	Information Sources
The percentage of Interagency Advisory Group reviews completed within the defined review period, during the Planning Screens	Planning Screen Summary Reports
The percentage of Interagency Advisory Group reviews completed within the defined review period, during the Programming Screens	Programming Screen Summary Reports
The quality of MPO responses to the comments, inquires, and requests of information from Interagency Advisory Groups, during the Planning Screens	Survey of opinions from MPOs, IDOT Districts, Resource Agencies, and FHWA
The quality of IDOT District responses to the comments, inquires, and requests of information from Interagency Advisory Groups, during the Programming Screens	Survey of opinions from MPOs, IDOT Districts, Resource Agencies, and FHWA
The quality of Designated Coordinator responses to the inquires and requests of information from Project Groups, during the preparation of Corridor/Feasibility Studies	Survey of opinions from MPOs, IDOT Districts, Resource Agencies, and FHWA
The quality of Environmental Coordinator responses to the inquires and requests of information from Project Groups, during the preparation of Corridor/Feasibility Studies	Survey of opinions from MPOs, IDOT Districts, Resource Agencies, and FHWA
The quality of Designated Coordinator responses to the inquires and requests of information from Project Groups, during the preparation of Phase I Design studies	Survey of opinions from MPOs, IDOT Districts, Resource Agencies, and FHWA
The quality of Environmental Coordinator responses to the inquires and requests of information from Project Groups, during the preparation Phase I Design studies	Survey of opinions from MPOs, IDOT Districts, Resource Agencies, and FHWA
The quality of MPO responses to the comments, inquires, and requests of information from Interagency Advisory Groups, during the Planning Screens	Survey of opinions from MPOs, IDOT Districts, Resource Agencies, and FHWA
The quality of Interagency Advisory Group comments, during the Planning Screens	Survey of opinions from MPOs, IDOT Districts, Resource Agencies, and FHWA
The quality of Interagency Advisory Group comments, during the Programming Screens	Survey of opinions from MPOs, IDOT Districts, Resource Agencies, and FHWA
The quality of avoidance, minimization, and mitigation measures recommended by Interagency Advisory Groups, during the Programming Screen	Survey of opinions from MPOs, IDOT Districts, Resource Agencies, and FHWA
The quality of Planning Screen Summary Reports	Survey of opinions from MPOs, IDOT Districts, Resource Agencies, and FHWA
The quality of Programming Screen Summary Reports	Survey of opinions from MPOs, IDOT Districts, Resource Agencies, and FHWA
The quality of project information in the Common Database	Survey of opinions from MPOs, IDOT Districts, Resource Agencies, and FHWA

The research team recommends that the IDOT Central Office should be responsible for gathering the data about Interagency Advisory Groups' reviews from Planning Screen Summary

Reports and Programming Screen Summary Reports. The research team also recommends that IDOT Central Office should be responsible for developing, issuing, and analyzing the surveys to gather the opinions from MPOs, IDOT Districts, Resource Agencies, and FHWA on interagency coordination and communication. The IDOT Central Office could also provide recommendations based on the analysis of the interagency coordination and communication performance measures.

6.5.2 Project Delivery Performance Measures

This category includes a set of quantitative performance measures to evaluate the Integrated IDOT-MPO-NEPA Planning Process in terms of project delivery. The quantitative measures and their information sources are shown in Table 22 (FDOT 2005). A set of Proposed Standards of Measure (i.e., what level of performance meets expectations, what needs improvement, and what is below expectations) is included in Appendix 3 of the Guidance Document (Appendix G).

Table 22: Project Delivery Performance Measures

Performance Measures	Information Sources
The average length of Environmental Assessment (EA) processing time	Project and Program Action Information System
The average length of Environmental Impact Statement (EIS) processing time	Project and Program Action Information System
The average length of time to conduct the Planning Screen	Common Database
The percentage of projects that have completed the Planning Screen within the planned schedule	Common Database
The average length of time to conduct the Programming Screen	Common Database
The percentage of projects that have completed the Programming Screen within the planned schedule	Common Database
The average length of time to conduct the Corridor/Feasibility Study	Common Database
The percentage of projects that have completed the Corridor/Feasibility Study within the planned schedule	Common Database

The EIS and EA processing time are recorded in the FHWA's Project and Program Action Information System, and are defined as follows:

- The EIS processing time is the time between the issuance of the NOI in the Federal Register and the signing by FHWA of the project's ROD
- The EA processing time is the time between the initiation of the project and the issuance of FONSI.

The Planning Screen, Programming Screen, and Corridor/Feasibility Study processing time should be recorded in the Common Database, and are defined as follows:

- The Planning Screen processing time is the time between the start of the data collection and the completion of the Planning Screen Summary Report
- The Programming Screen processing time is the time between the start of the data collection and the completion of the Programming Screen Summary Report

- The Corridor/Feasibility Study processing time is the time between the initiation of the study and the completion of the final Corridor/Feasibility Study report

The research team recommends that IDOT Central Office should be responsible for gathering the NEPA processing time information from FHWA's Project and Program Action Information System and the processing time information for other subprocesses from the Common Database. The research team also recommends that IDOT Central Office should be responsible for analyzing the project delivery performance measures and providing recommendations, if/as necessary.

CHAPTER 7 CONDUCT INTERVIEWS FOR EVALUATION OF THE INTEGRATED IDOT-MPO-NEPA PLANNING PROCESS (TASK 6)

In order to provide effective guidance on how to integrate NEPA into the IDOT planning process and the MPO planning process for large-scale highway projects, the research team developed the draft Guidance Document based on the results of Task 1 to Task 5. The draft Guidance Document includes a brief description of the existing IDOT, MPO, and NEPA planning processes, a summary of the recommended integration practices, and the implementation details of both the recommended collaboration-oriented integration practices and the subprocesses of the Integrated IDOT-MPO-NEPA Planning Process. The draft Guidance Document also provides a set of recommended performance measures to evaluate the performance of the Integrated IDOT-MPO-NEPA Planning Process.

To further evaluate the proposed Integrated IDOT-MPO-NEPA Planning Process, the research team conducted a second round of one-to-one face-to-face interviews with staff from the following four groups of agencies: 1) IDOT Districts, 2) MPOs, 3) Resource Agencies, and 4) IDOT Office of Planning and Programming, IDOT Bureau of Design and Environment, and FHWA.

To solicit expert feedback on the Guidance Document in a structured and efficient manner, the research team developed a questionnaire and sent the draft Guidance Document and the questionnaire to each of the interviewees two weeks prior to the interview to allow interviewees sufficient time for review. During each face-to-face interview, the research team (1) answered any questions that the interviewee had on the draft Guidance Document, (2) allowed the interviewee time to complete the questionnaire, and (3) solicited feedback/recommendations from the interviewee on how to revise the Guidance Document, if any. Based on the feedback received during the face-to-face interviews, the research team revised the Guidance Document, and sent the revised Guidance Document to each of the interviewees for a second round of review. As part of the second round of review, the interviewees were also requested to provide further feedback/recommendations on how to further revise the Guidance Document, if any. No further feedback/recommendations were provided by the experts after the second round of review, and they were satisfied with the revisions made. The results of the pre-revision survey are presented in Section 7.2.

7.1 QUESTIONNAIRE DESIGN

The questionnaire was composed of five main sections: (1) respondent information, (2) collaboration-oriented integration practices, (3) process-oriented integration practices, (4) process representation and interactions, and (5) performance measures for evaluation of the proposed Integrated IDOT-MPO-NEPA Planning Process. The complete list of questions in the questionnaire can be found in Appendix F.

Section 1 aimed at collecting the following respondent information: name, contact information, the agency he/she represents, and years of experience. Figure 12 shows a snapshot of the respondent information page.

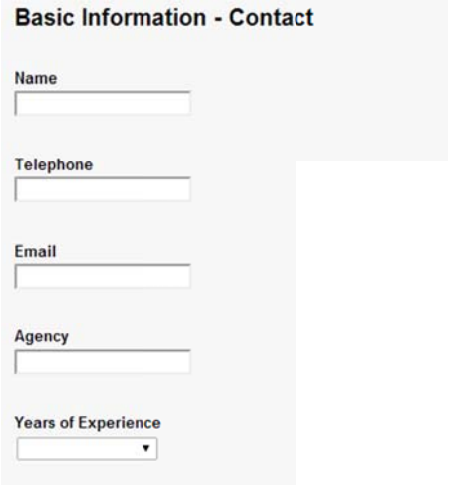


Figure 12. Questionnaire: A snapshot from Section 1 (respondent information).

For Section 2 to Section 5, a six-point Likert scale was used to record the responses of respondents, with six being the most favorable, as follows:

- Strongly Agree: 6
- Agree: 5
- Somewhat Agree: 4
- Somewhat Disagree: 3
- Disagree: 2
- Strongly Disagree: 1

For each question, respondents were also asked to specify any recommendations or suggestions they may have.

Section 2 aimed at collecting expert feedback on the implementation details of the collaboration-oriented integration practices. The questions in Section 2 asked whether the respondents agree with the functions of the Common Database, the responsibilities of the Designated Coordinators, the responsibilities of the Environmental Coordinators, the responsibilities of the Interagency Advisory Group, the composition of the Interagency Advisory Group, the description of MOUs and PAs, and the description training and outreach activities—all as described in the draft Guidance Document. Figure 13 shows a sample question from Section 2.

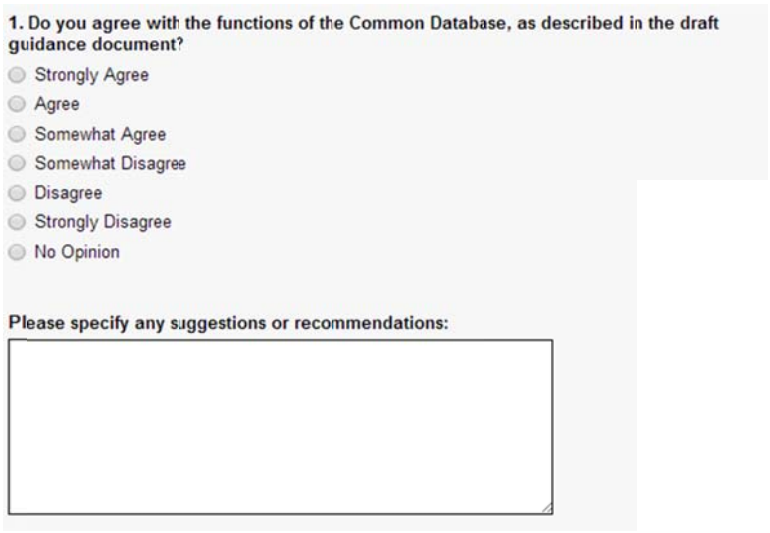


Figure 13. Questionnaire: A sample question from Section 2 (collaboration-oriented integration practices).

Section 3 aimed at collecting expert feedback on the procedure for implementing the process-oriented integration practices, such as the procedure for interagency coordination during the development of the LRTP, the procedure for conducting the Planning Screen, the procedure for interagency coordination during the development of the MYP, the procedure for conducting the Programming Screen, etc.—all as described in the draft Guidance Document. Figure 14 shows a sample question from Section 3.

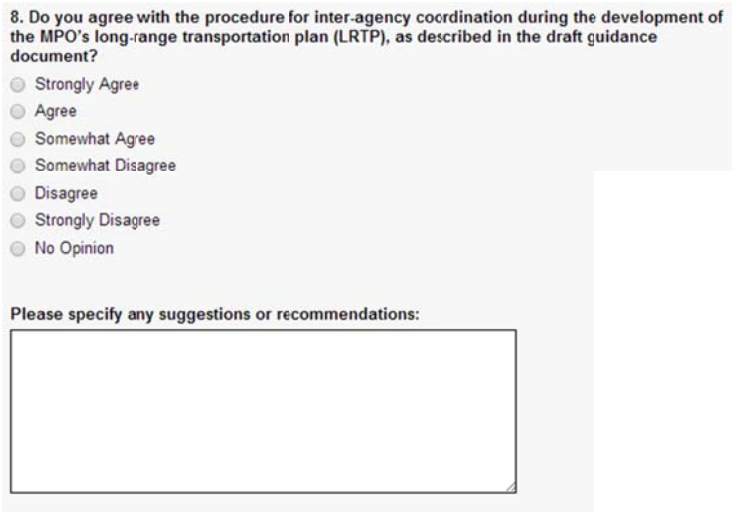


Figure 14. Questionnaire: A sample question from Section 3 (process-oriented integration practices).

Section 4 aimed at collecting expert feedback on the process representation and interactions as shown in the IDOT-MPO-NEPA Integrated Planning Process Flow Chart and the Input-Output-Actor Table—all as described in the draft Guidance Document. Figure 15 shows a sample question from Section 4.

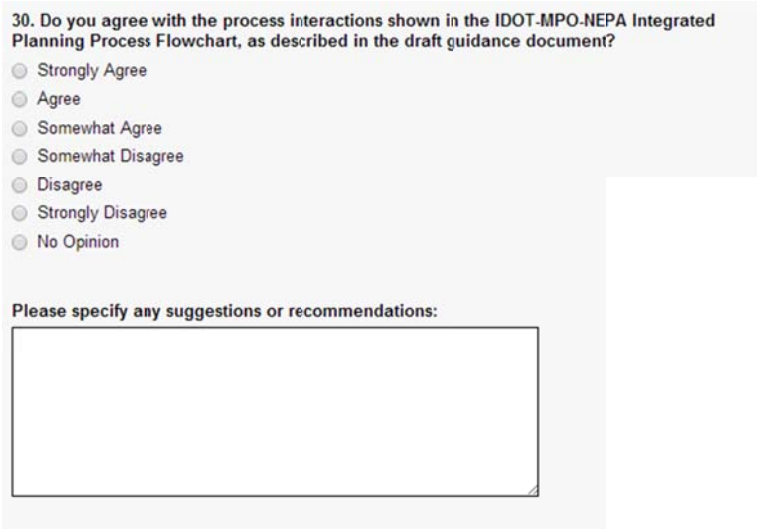


Figure 15. Questionnaire: A sample question from Section 4 (process representation and interactions).

Section 5 aimed at collecting expert feedback on the performance measures for evaluation of the proposed Integrated IDOT-MPO-NEPA Planning Process. The recommended performance measures included interagency coordination and communication performance measures, project delivery performance measures, and compliance with NEPA requirements performance measures—all as described in the draft guidance. Figure 16 shows a sample question from Section 5.

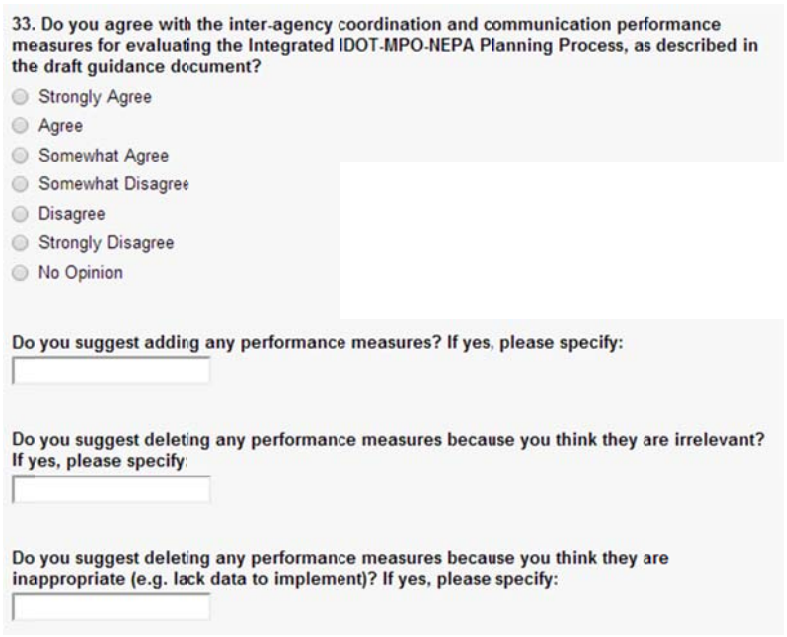


Figure 16. Questionnaire: A sample question from Section 5 (performance measures for evaluation of the proposed Integrated IDOT-MPO-NEPA Planning Process).

7.2 ANALYSIS OF THE RESULTS OF THE PRE-REVISION SURVEY

The research team conducted seven (7) one-to-one face-to-face expert interviews. The following subsections summarize the results of the survey and their analysis. For analyzing the results, the research team calculated the mean, standard deviation, and median scores. The interpretation of the results was based on the median scores.

7.2.1 Respondent Information

A summary of the results of Section 1 (respondent information) is shown in the Table 23.

Table 23. A Summary of Respondent Information

Agency	Number of Respondents	Years of Experience	Agency Group
IDOT District 6	1	Over 10 years	IDOT District
IDOT District 8	1	Over 10 years	IDOT District
IDOT	1	Over 10 years	IDOT Central Office and FHWA
FHWA	1	Over 10 years	IDOT Central Office and FHWA
Rockford Metropolitan Agency for Planning	1	Over 10 years	MPO
Champaign/Urbana Area Transportation Study	1	Over 10 years	MPO
Illinois State Archaeological Survey	1	Over 10 years	Resource Agency
Total	**7**		

7.2.2 Collaboration-Oriented Integration Practices

A summary of the results of Section 2 (collaboration-oriented integration practices) is shown in Table 24.

Table 24. A Summary of the Results of Section 2 (Collaboration-Oriented Integration Practices)

Implementation Details of Collaboration-Oriented Integration Practices	Mean Score	Standard Deviation	Median Score	Overall Opinion of Respondents (Based on Median)
1. Functions of the Common Database	5.43	0.53	5	Agree
2. Responsibilities of the Designated Coordinators	5.00	0.58	5	Agree
3. Responsibilities of the Environmental Coordinators	4.86	0.38	5	Agree
4. Responsibilities of the Interagency Advisory Group	4.29	1.50	5	Agree
5. Composition (i.e., members) of the Interagency Advisory Group	4.86	0.38	5	Agree
6. Descriptions of MOUs and PAs	5.00	1.41	5	Agree
7. Descriptions of training and outreach activities	5.29	0.49	5	Agree

For the Common Database, respondents recommended that the research team adds more details about how to build and maintain the Common Database.

For the Designated Coordinators, respondents suggested listing the responsibilities of Designated Coordinators from MPOs separate from the responsibilities of Designated Coordinators from IDOT Districts.

For the Interagency Advisory Group, respondents suggested: (1) changing the responsibility "Evaluate and comment on the direct, indirect, and cumulative effects of project environmental, socioeconomic, and cultural resources" to "Evaluate and comment on the known resource presence" and the responsibility "Assist IDOT Districts in developing an outline of the scope of work for project development" to "Assist IDOT Districts in developing an outline of the Purpose and Need for project development," and (2) deleting the responsibility "Recommend potential avoidance, minimization, and/or mitigation measures."

For the training and outreach activities, respondents recommended that the training and outreach activities be conducted initially face-to-face, and later through regular webinars. Respondents also suggested adding details about which agency is going to be responsible for coordinating the training and outreach activities.

7.2.3 Process-Oriented Integration Practices

A summary of the results of Section 3 (process-oriented integration practices) is shown in Table 25.

Table 25a. A Summary of the Results of Section 3 (Process-Oriented Integration Practices), Part 1

Implementation Details of Process-Oriented Integration Practices	Mean Score	Standard Deviation	Median Score	Overall Opinion of Respondents (based on median)
8. Procedure for interagency coordination during the development of the MPO's LRTP	4.57	1.13	5	Agree
9. Procedure for conducting the Planning Screen	4.57	1.13	5	Agree
10. Procedure for interagency coordination during the Planning Screen	5.00	0.00	5	Agree
11. Recommended types of data to be collected during the Planning Screen	4.57	1.13	5	Agree
12. Procedure for standard GIS analyses during the Planning Screen	5.00	0.00	5	Agree
13. Procedure for evaluation of project effects during the Planning Screen	4.57	1.13	5	Agree
14. Use of the recommended criteria and metrics as standardized criteria and metrics during the Planning Screen	4.57	1.13	5	Agree
15. Use of the recommended indicators during the Planning Screen	4.14	1.21	5	Agree

Table 25b. A Summary of the Results of Section 3 (Process-Oriented Integration Practices), Part 2

Implementation Details of Process-Oriented Integration Practices	Mean Score	Standard Deviation	Median Score	Overall Opinion of Respondents (based on median)
16. Content of the Planning Screen Summary Report	5.00	0.58	5	Agree
17. Procedure for interagency coordination during the development of the IDOT's MYP	5.00	0.00	5	Agree
18. Procedure for conducting the Programming Screen	5.17	0.41	5	Agree
19. Procedure for interagency coordination during the Programming Screen	5.00	0.00	5	Agree
20. Recommended types of data to be collected during the Programming Screen	4.50	1.22	5	Agree
21. Procedure for standard GIS analyses during the Programming Screen	5.00	0.00	5	Agree
22. Procedure for evaluation of project effects during the Programming Screen	5.00	0.00	5	Agree
23. Use of the recommended criteria and metrics as standardized criteria and metrics during the Programming Screen	4.67	0.82	5	Agree
24. Use of the recommended indicators during the Programming Screen	4.67	0.82	5	Agree
25. Content of Programming Screen Summary Report	5.17	0.41	5	Agree
26. Procedure for interagency coordination during the preparation of Corridor/Feasibility Studies	4.83	0.41	5	Agree
27. Procedure for conducting Corridor/Feasibility Studies according to NEPA regulatory requirements	4.83	0.41	5	Agree
28. Procedure for conducting Corridor/Feasibility Studies according to NEPA documentation requirements	5.00	0.00	5	Agree
29. Procedure for interagency coordination during Phase I Design	5.00	0.00	5	Agree

For the procedure for interagency coordination during the development of the MPO's LRTP, respondents suggested not using the words "regionally significant" as MPO's LRTP can include all kinds of projects, not necessarily regionally significant projects.

For the procedure for evaluation of project effects during the Planning Screen, respondents suggested deleting the following two tasks:

- Evaluating the direct, indirect, and cumulative effects of the project on environmental, socioeconomic, and cultural resources
- Providing recommendations including avoidance, minimization, and/or mitigation measures that could reduce project effects on at-risk resources

For the contents of the Planning Screen Summary Report, respondents suggested changing the following item from “Interagency Advisory Group comments, conclusions, and recommendations for potential direct, indirect, and cumulative project effects on resources” to “Interagency Advisory Group comments and recommendations on known resource presence.”

For the procedure for evaluation of project effects during the Programming Screen, respondents suggested changing the following task from “Evaluating the direct, indirect, and cumulative effects of a project on environmental, socioeconomic, and cultural resources” to “Evaluating the project for different resources.”

For the contents of the Programming Screen Summary Report, respondents suggested changing the following item from “Interagency Advisory Group comments, conclusions, and recommendations for potential direct, indirect, and cumulative project effects on resources” to “Interagency Advisory Group comments, conclusions, and recommendations on potential effects on resources,” and changing the following item from “Scope of work outline” to “Outline of Purpose and Need.”

For the recommended criteria and metrics, respondents suggested:

(1) Changing the following recommended criteria and metrics:

- Changing air quality to “Determine whether the project is located in the nonattainment area”
- Changing natural resource to “Identify the federal and/or state endangered or threatened species, and federal or state designated lands within the scope of the project”
- Changing water resources and aquatic to “Identify water resource cover types (e.g., riverine, lacustrine, ponds) and watershed(s) within the project area, and estimate their acreages”
- Changing groundwater to “Identify aquifers, aquifer recharge areas, groundwater class, groundwater quality, public drinking water wells, and wellhead protection zones for the project area”
- Changing floodplains to “Evaluate the 100-year floodplain within the proposed project area and identify base floodplains and floodways where applicable”
- Changing cultural resources to “The cultural resource analyses require the identification of the known archaeological sites, historic bridges, and historic districts and buildings”

(2) Deleting the following criteria and metrics:

- Direct effects, indirect effects and cumulative effects, as the evaluation of these effects require much more information that can’t be obtained during the Planning Screen and Programming Screen.
- Special waste, as it requires field survey and can’t be obtained through GIS analyses.

For the recommended indicators, respondents suggested (1) changing the description “buffer zone of the project” to “project area,” and (2) deleting the following indicators:

- Vehicle-generated pollution emissions for different types of pollutants
- The sizes and types of upland plant communities within the buffer zone of the project
- The sizes and types of wildlife habitats within the buffer zone of the project
- The distance between identified water resources and road edge
- The number and types of residential displacements due to the project
- The number and types of business displacements due to the project
- The anticipated bicycle and pedestrian usage after the construction of the project
- The anticipated mobility after the construction of the project
- The distance between the identified archaeological site and the project area
- The distance between the identified historic bridge and the project area
- The distance between the identified historic building and the project area

7.2.4 Process Representation and Interactions

A summary of the results of Section 3 (process representation and interactions) is shown in Table 26.

Table 26. A Summary of the Results of Section 4 (Process Representation and Interactions)

Representation and Interaction of the Subprocesses	Mean Score	Standard Deviation	Median Score	Overall Opinion of Respondents (based on median)
30. Process interactions shown in the IDOT-MPO-NEPA Integrated Planning Process Flow Chart	5.14	0.38	5	Agree
31. Process inputs and outputs shown in the Input-Output-Actor Table	5.14	0.38	5	Agree
32. Process actors shown in the Input-Output-Actor Table	5.14	0.38	5	Agree

For process interactions, respondents suggested (1) adding the development of MPO’s Transportation Improvement Program (TIP) as a subprocess, (2) changing the following subprocess from “Assign Project Study Group” to “Assign Project Group” as Project Study Group is tied only to projects following a CSS process, and (3) extending the duration of CSS subprocess to Phase III construction as the CSS process is initiated after the Project Group is assigned and continues until the end of Phase III.

7.3 PERFORMANCE MEASURES FOR EVALUATION OF THE INTEGRATED IDOT-MPO-NEPA PLANNING PROCESS

A summary of the results of Section 5 (performance measures for evaluation of the Integrated IDOT-MPO-NEPA Planning Process) is shown in Table 27.

Table 27. A Summary of the Results of Section 5 (Performance Measures for Evaluation of the Integrated IDOT-MPO-NEPA Planning Process)

Performance Measures for Evaluation of the Integrated IDOT-MPO-NEPA Planning Process	Mean Score	Standard Deviation	Median Score	Overall Opinion of Respondents (Based on Median)
33. Interagency coordination and communication performance measures	4.67	0.52	5	Agree
34. Project delivery performance measures	4.50	0.84	5	Agree
35. Compliance with NEPA requirements performance measures	4.43	1.13	5	Agree

For the performance measures for evaluation of the Integrated IDOT-MPO-NEPA Planning Process, respondents suggested adding details about which agency is going to be responsible for gathering the data and analyzing the performance measures.

For interagency coordination and communication performance measures, respondents suggested deleting the following performance measures as gathering the data required to calculate these performance measures would be too time-consuming:

- The percentage of MPO responses to the comments, inquires, and requests of information from Interagency Advisory Groups completed within the defined response period, during the Planning Screens
- The percentage of IDOT District responses to the comments, inquires, and requests of information from Interagency Advisory Groups completed within the defined response period, during the Programming Screens
- The percentage of Designated Coordinator responses to inquiries and requests of information from Project Groups completed within the defined response period, during the preparation of Corridor/Feasibility Studies
- The percentage of Environmental Coordinator responses to inquiries and requests of information from Project Groups completed within the defined response period, during the preparation of Corridor/Feasibility Studies
- The percentage of Designated Coordinator responses to inquiries and requests of information from Project Groups completed within the defined response period, during the preparation of Phase I Design studies
- The percentage of Environmental Coordinator responses to inquiries and requests of information from Project Groups completed within the defined response period, during the preparation of Phase I Design studies

For project delivery performance measures, respondents suggested deleting the following performance measures as the data required to calculate these performance measures would be difficult to obtain:

- The average length of Categorical Exclusion (CE) processing time
- The percentage of projects that have completed the NEPA process within the planned schedule

- The average length of time to conduct Phase I Design study
- The percentage of projects that have completed Phase I Design study that meet proposed schedule

Respondents also suggested defining the start and end times for the subprocesses measured by the project delivery performance measures.

For compliance with NEPA requirements performance measures, respondents suggested moving the performance measures in this category to the interagency coordination and communication performance measures.

CHAPTER 8 DEVELOPING THE GUIDANCE DOCUMENT (TASK 7)

Based on the results of Task 1 to Task 6, the research team developed the Guidance Document on how to integrate NEPA into the current IDOT planning process and MPO planning process for large-scale highway projects. The research team first developed the draft Guidance Document based on the results of Task 1 through Task 5. The draft Guidance Document was evaluated using expert interviews (as per Task 6) and was revised based on expert feedback. The revised draft Guidance Document was sent to the experts and TRP for a second round of review. No further feedback/recommendations were provided by the experts after the second round of review, and they were satisfied with the revisions made. The final Guidance Document is included in Appendix G.

The Guidance Document includes a brief description of the existing IDOT, MPO, and NEPA planning processes; a summary of the recommended integration practices; and the implementation details of both the recommended collaboration-oriented integration practices and the subprocesses of the Integrated IDOT-MPO-NEPA Planning Process (the recommended process-oriented integration practices). The Guidance Document also provides a set of recommended performance measures to evaluate the performance of the Integrated IDOT-MPO-NEPA Planning Process. The following is a list of the main sections of final Guidance Document. The detailed description of each section can be found in Appendix G.

- Integrated IDOT-MPO-NEPA Planning Process
    - Original IDOT, MPO, and NEPA planning Processes
    - Summary of recommended integration practices
    - Collaboration-oriented integration practices
    - Integrated IDOT-MPO-NEPA planning subprocesses (process-oriented integration practices)
- Evaluation of the Integrated IDOT-MPO-NEPA Planning Process
    - Interagency coordination and communication performance measures
    - Project delivery performance measures

CHAPTER 9 OUTCOMES, CONCLUSIONS, AND RECOMMENDATIONS FOR FUTURE RESEARCH

9.1 SUMMARY OF TASKS

The main goal of this project was to assist IDOT in defining the guidelines on how to integrate NEPA into the current IDOT and MPO planning processes for large-scale highway projects. To accomplish this goal, the research team completed seven main tasks. In Task 1, the research team conducted a comprehensive literature review of IDOT planning process, MPO planning process, NEPA process, and existing documents/studies that describe the current practices of linking/integrating NEPA and transportation planning processes in four states: Colorado, Florida, Indiana, and Maine. In Task 2, the research team collected project data from the four studied states, in addition to Illinois, for analysis as case studies, for a total of 21 projects. In Task 3, the research team conducted a set of 31 one-to-one expert interviews, using questionnaires, with staff from the following agencies to evaluate potential practices of integrating NEPA into transportation planning processes for large-scale highway projects: IDOT (including IDOT Districts, IDOT Office of Planning and Programming, IDOT Bureau of Design and Environment), FHWA, MPOs, and Resource Agencies. In Task 4, the research team analyzed the results of the literature review, case studies, and expert interviews, and accordingly identified a set of potential key practices for successfully integrating NEPA into transportation planning processes for large-scale highway projects in Illinois. In Task 5, the research team developed a proposed Integrated IDOT-MPO-NEPA Planning Process for large-scale highway projects based on the results of Task 1 to Task 4. In Task 6, the research team conducted a second set of interviews with a selected set of seven experts to evaluate the draft Guidance Document. In Task 7, the research team developed the Guidance Document for the Integrated IDOT-MPO-NEPA Planning Process, which was developed based on the results of Task 1 through Task 5 and was revised based on expert feedback (Task 6).

9.2 MAIN OUTCOMES AND CONCLUSIONS

The **main outcomes** of this project are:

1. A comprehensive literature review of the current practices of linking/integrating NEPA and transportation planning processes in four states: Colorado, Florida, Indiana, and Maine
2. Expert evaluation of potential practices of integrating NEPA into transportation planning processes for large-scale highway projects by 31 experts from the following agencies: IDOT (including IDOT Districts, IDOT Office of Planning and Programming, IDOT Bureau of Design and Environment), FHWA, MPOs, and Resource Agencies
3. Guidance Document on how to integrate NEPA into the current IDOT planning process and MPO planning process for large-scale highway projects, including recommendations on how to evaluate the integrated process

The Guidance Document was developed based on consultation and feedback from a set of 31 experts from IDOT (including IDOT Districts, IDOT Office of Planning and Programming, IDOT Bureau of Design and Environment), FHWA, MPOs, and Resource Agencies. It is noted that the implementation of this guidance by MPOs will be voluntary. The Guidance Document includes two types of interrelated integration practices: (1) process-oriented integration practices, and (2) collaboration-oriented integration practices.

The following is a summary of the recommended process-oriented integrating practices (further details are provided in the Guidance Document [Appendix G]):

- Long-Range Transportation Plan Preparation (LRTP)

    - Ensuring early coordination between Districts and MPOs while preparing the LRTPs by MPOs
    - Soliciting the feedback of Resource Agencies on potential environmental issues during the preparation of the LRTPs by MPOs
- Planning Screen
    - Conducting an environmental screening of priority projects, using a GIS-based tool, once they have been included in the MPO's LRTP
    - Engaging Resource Agencies in environmentally screening priority projects during the Planning Screen
    - Establishing and using standardized environmental criteria and metrics for environmentally assessing projects during the Planning Screen
    - Informing Phase I consultants, IDOT in-house staff, and Resource Agencies involved in the NEPA process of the results of the Planning Screen
    - Uploading and storing the data and results of the Planning Screen in a Common Database
- Multi-Year Program Preparation
    - Soliciting the feedback of Resource Agencies on potential environmental issues during the preparation of the MYP
- Programming Screen
    - Conducting an environmental screening of priority projects, at the District level and using a GIS-based tool, once they have been included in the IDOT's MYP
    - Engaging Resource Agencies in environmentally screening priority projects during the Programming Screen
    - Establishing and using standardized environmental criteria and metrics for environmentally assessing projects during the Programming Screen
    - Informing Phase I consultants, IDOT in-house staff, and Resource Agencies involved in the NEPA process of the results of the Programming Screen
    - Uploading and storing the data and results of the Programing Screen in a Common Database
- Corridor/Feasibility Studies Preparation
    - Conducting Corridor/Feasibility Studies in compliance with NEPA requirements
    - Providing Phase I consultants involved in preparing Corridor/Feasibility Studies with the data and results of the Planning Screen and Programming Screen

The following is a summary of the recommended collaboration-oriented integrating practices (further details are provided in Guidance Document [Appendix G]):

- Common Database
    - Establishing and using one Common Database for collecting, storing, updating, and accessing project data and environmental data, where data/feedback is provided and accessed by IDOT/Districts, MPOs, Resource Agencies, and consultants

- Designated Coordinators
    - Designating a coordinator at every District to be responsible for the implementation of the Integrated IDOT-MPO-NEPA process and for interagency coordination
    - Designating a coordinator at every MPO to be responsible for the implementation of the Integrated IDOT-MPO-NEPA process and for interagency coordination
- Dedicated Staff at Resource Agencies
    - Providing dedicated staff at Resource Agencies for cooperating and coordinating with IDOT/Districts and MPOs
- Interagency Advisory Groups
    - Establishing interagency work groups, advisory groups, and/or committees for supporting early and continuous involvement and coordination
- Memorandums of Understanding and Programmatic Agreements
    - Developing MOUs or PAs among agencies for supporting early and continuous involvement and coordination
- Training and Outreach
    - Providing agencies with a common understanding of one another's roles and responsibilities

9.3 RECOMMENDATIONS FOR FUTURE RESEARCH

The research team identified the following promising research areas that may enhance, both, compliance with NEPA and efficiency of project development in terms of time and cost:

(1) Expand the scope of the Integrated IDOT-MPO-NEPA Planning Process to cover large transit projects: As large-scale transit projects tend to have a lengthy and costly NEPA process, expanding the scope of the Integrated IDOT-MPO-NEPA Planning Process to cover large transit projects may enhance the compliance with NEPA and the efficiency of project development in terms of time and cost.

(2) Develop a Common Database for collecting, storing, updating, and accessing project data: The Common Database would include all relevant (i.e. relevant to the Integrated IDOT-MPO-NEPA Planning Process) project data at different milestones of the Integrated IDOT-MPO-NEPA Planning Process. It would be an important tool for improving information access for agencies that would participate in the Integrated IDOT-MPO-NEPA Planning Process. Further description of the need for and functions of the Common Database is included in Chapter 6 and Appendix G.

(3) Develop a GIS-based environmental screening tool: Environmental screening of projects is an important part of the Integrated IDOT-MPO-NEPA Planning Process. It requires collecting a large amount of environmental, socioeconomic, and cultural resources data; conducting standard GIS analyses based on the collected data; communicating the GIS analyses results to Resource Agencies; and preparing a screening summary report. As the level of GIS use varies significantly across agencies, collecting the GIS datasets that are suitable for environmental screening can be costly for agencies that do not maintain their own GIS datasets, and conducting standardized GIS analyses can be difficult for agencies without any GIS staff. Moreover, communicating the GIS analyses results to Resource Agencies could be time-consuming. In order to improve the efficiency of environmental screening in terms of time and cost and enhance interagency coordination, it is important to develop a GIS-based environmental screening tool that (1) integrates the core resource data from multiple sources into an

easy to use, standard format, (2) allows agencies to conduct standard GIS analysis using the data the tool incorporates with ease, (3) allows effective communication of information among agencies and to the public, (4) stores and reports results of environment screening effectively and efficiently, and (5) maintains project data throughout the Integrated IDOT-MPO-NEPA Planning Process. Based on a survey conducted in 2007 (FDOT 2009), FDOT indicated that their Efficient Transportation Decision Making (ETDM) process has resulted in an estimated cost savings of approximately $15.2 million and a cumulative time savings of more than 38 years. These cost and time savings were largely due to the use of their Environmental Screening Tool (EST). Other reported benefits included improved interagency coordination and better information access.

It is noted that if the GIS-based environmental screening tool is developed with such database features (i.e., functions for collecting, storing, updating, and accessing project data), the Common Database described above would not be necessary.

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APPENDIX A LITERATURE REVIEW

A.1 IDOT TRANSPORTATION PLANNING PROCESS

The following description of the IDOT planning process is based on federal guidance provided by FHWA and FTA (2007), SAFETEA-LU (USGPO 2007), and state guidance provided by the amended Civil Administrative Code of Illinois (Illinois General Assembly 2010), as well as statewide planning documents from IDOT (IDOT 2007a, 2007b, 2007c, 2007d, 2012a).

A.1.1 Formulate Regional Policies and Goals

The first step in IDOT transportation planning is to formulate the policies and goals that would guide the whole planning process. The policies and goals, which provide a framework for IDOT's planning efforts, are the result of a combination of federal guidance, regional knowledge, IDOT's vision, as well as the involvement of MPOs, local governments, private transportation providers, and the general public. This step shall be guided by the eight SAFETEA-LU planning factors outlined by the federal government for statewide transportation planning:

1. "Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency;
2. "Increase the safety of the transportation system for motorized and non-motorized users;
3. "Increase the security of the transportation system for motorized and non-motorized users;
4. "Increase the accessibility and mobility of people and for freight;
5. "Protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and State and local planned growth and economic development patterns;
6. "Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight;
7. "Promote efficient system management and operation; and
8. "Emphasize the preservation of the existing transportation system." (USGPO 2007)

Based on these planning factors, a set of planning policies are defined. For example, in Illinois State Transportation Plan 2007, the following policies have been developed:

1. "Target transportation investments to support business and employment growth, and enhance the Illinois economy;
2. "Provide a transportation system that offers a high degree of mobility, accessibility, reliability, and options;
3. "Preserve and manage the existing transportation system;
4. "Reduce congestion, optimize service and operation efficiency, develop intermodal connections, and utilize transportation technology advances
5. "Ensure a compatible interface of the transportation system with environmental, social, and energy considerations;
6. "Follow a comprehensive transportation planning process and promote coordination among public and private sector transportation system;
7. "Promote stable funding for the public component of the transportation system;
8. "Improve transportation system;

9. “Provide a secure transportation infrastructure in conjunction with the office of homeland security—Illinois terrorism task force.” (IDOT 2007a)

For each policy, IDOT defines a set of associated goals. For example, for the first policy established in Illinois Transportation Plan 2007, IDOT has developed the following associated “economy enhancement goals” to accomplish over the next 20 years:

1. “Support cost-effective transportation investments, including new facilities and expansion of existing systems, that enhance the state's comparative economic advantage or expand or retain economic development and employment;
2. “Work with private transportation providers to improve and maintain transportation services to Illinois industries and business firms;
3. “Identify international and interstate transportation needs and market opportunities along with access needs to water ports, airports, major freight distribution corridors, and intermodal transfer facilities;
4. “Support transportation investments that attract intrastate, interstate, and international tourism to Illinois and provide access to recreational, cultural, historic, and scenic facilities;
5. “Maintain a continuing dialogue with representatives of local government and all sectors of the Illinois economy to ensure that economic development opportunities and needs are identified;
6. Improve access to jobs for employees across the state.” (IDOT 2007a)

A.1.2 Monitor Existing Conditions

Before IDOT applies the policies and goals as the guidance for transportation planning, a comprehensive condition analysis of the existing transportation system should be carried out in order to better identify its improvement needs.

As the fifth most populous state in the United States, Illinois has established a multi-modal transportation system that consists of various public and private-owned and operated facilities (IDOT 2007a). These facilitates include airports, bicycles and pedestrians trails, freight railroads and intermodal facilities, highways, intercity passenger services, public transit, and waterways and ports. In this step, IDOT gathers accident, travel, and operation data for each type of facility using existing information systems or established procedures for data collection such as surveys (IDOT 2007b). For example, for highway facilities, IDOT can (1) collect basic travel information including number of accidents, ridership, average travel time and speed, and average vehicles miles of travel etc. using its regional data archiving system, and (2) conduct a Condition Rating Survey (CRS) that provides an assessment of the pavement condition of the state highway system to collect data about pavement conditions (IDOT 2007b).

In addition to satisfying their mobility needs, the Illinois transportation system is also affecting the economic well-being, quality of life, safety, and environment of all Illinois residents. Thus, during transportation planning, IDOT shall evaluate how the Illinois transportation system impacts the state’s economy and the quality of its residents’ life to better select which improvement strategies to adopt (IDOT 2007b).

In Illinois State Transportation Plan 2007, IDOT describes how the Illinois transportation system helps shape Illinois’ diversified economy by assessing the system’s influences on the states’ manufacturing, agriculture, and tourism and conventions. In the report, IDOT also demonstrates how the Illinois transportation system consolidates Illinois’ position in the global and national economies (IDOT 2007a).

As an important aspect of people's quality of life, the environment is always a consideration in IDOT's transportation planning process. Since Chicago and Metro-East St. Louis regions are identified as nonattainment areas by the National Ambient Air Quality Standard, the Illinois transportation system's impacts on air quality are particularly addressed in the IDOT transportation planning process (IDOT 2007b).

A.1.3 Perform Need Analysis

In order to guide the development of a transportation system "that is in balance with current and future travel needs" (IDOT 2007a), IDOT needs to evaluate the ability of the Illinois transportation system to satisfy the current and future travel needs with safety services. The evaluation process requires not only an examination of the physical conditions of existing facilities, but also a comprehensive analysis of travel needs based on current travel data and future trends.

There are two main types of trends that influence future travel needs: social and economic trends, and transportation trends. Social and economic trends include but are not limited to trends in the following areas: population, employment, aging population and persons with disabilities, suburban growth, and rural accessibility. Transportation trends are represented by person travel trends, freight travel trends, and trends in different transportation facilities (IDOT 2007b).

Based on inspection of existing facilities and analysis of current and future travel needs, if IDOT finds any problem with the current transportation system's ability to meet travel needs, corresponding transportation improvement strategies will be proposed. For example, through the Condition Rating Survey described in the previous step, IDOT can identify which highway segments need immediate improvement to maintain normal operation. One improvement strategy is to develop corresponding highway improvement programs to repair the deterioration of segments (IDOT 2007c). In addition, IDOT also plans to implement more innovative techniques such as Superpave (Superior Performing Asphalt Pavement) to deal with highway aging (IDOT 2007c).

A.1.4 Evaluate and Prioritize Strategies

"One of the key factors affecting long-range plans for the Illinois transportation system is the reality that needs outpacing available funds" (IDOT 2007d). As limited transportation funds cannot cover all improvement strategies, an evaluation and prioritization process is necessary to select appropriate improvement strategies for the available funding program.

IDOT first assesses the cost of different improvement strategies and their impact on the Illinois transportation system and the natural environment (FHWA and FTA 2007). To further decide which strategies to fund, IDOT identifies available funding for different capital improvement programs and ranks improvement strategies from high to low priority.

IDOT's transportation funding comes from both federal and state resources, and is restricted by appropriations approved by the General Assembly and signed by the Governor (IDOT 2007d). These funds are distributed to the different transportation modal systems: highways, public transit, railway, and aeronautics. To determine the available funding for a capital improvement program for a specific mode, IDOT first estimates the annual revenue based on the funding from state and federal sources, and then deducts cost for existing obligations and non-capital spending (IDOT 2007d).

After the size of the capital improvement program has been determined, IDOT decides which transportation improvement strategies should be funded based on not only the cost but also how well these strategies will address regional priorities. To facilitate decision-making, IDOT has identified different priorities for the different transportation modal systems. For example, for the highway system, the priorities recognized by IDOT are:

1. "System Maintenance, including reconstruction, resurfacing/widening, and safety projects;

2. “Bridge Maintenance, including bridge replacement and rehabilitation projects and minor structure repairs;
3. “Congestion Mitigation, including major projects that reduce traffic congestion in urban areas and other improvements that improve traffic flow; and
4. “System Expansion, including new roads and other projects that increase access and promote economic development.” (IDOT 2007c)

A.1.5 Develop State Transportation Plan

IDOT has the responsibility to develop and update a state transportation plan that “identifies issues and key needs that will guide state DOT in their investment decision for the state transportation system over the forthcoming twenty years” (FHWA and FTA 2007).

According to the amended Civil Administrative Code of Illinois, the State Transportation Plan shall be updated at least every 5 years and shall demonstrate the following elements:

1. Goals and objectives that guide the “development and maintenance of a comprehensive and balanced statewide transportation system”;
2. Performance measures that evaluates the “adequacy, efficiency, and coordination of transportation services and implementation of goals and objectives”;
3. Criteria for choosing projects “for inclusion in the annual and multi-year transportation improvement programs; “Transportation policies that reflect the relationship of transportation to land use, economic development, the environment, air quality, and energy consumption transportation policies that reflect the relationship of transportation to land use, economic development, the environment, air quality, and energy consumption; foster the efficient movement of people and goods; coordinate modes of transportation; coordinate planning among federal agencies, state agencies, transportation agencies, and local governments; and address the safety and equity of transportation services”; and
4. Strategies for improvement, regional priorities, and opportunities and challenges for achieving the goals and objectives. (Illinois General Assembly 2010)

According to SAFTEA-LU, the state transportation plan shall be developed “in consultation with state, tribal, and local agencies responsible for land use management, natural resources, environmental protection, conservation, and historic preservation” (USGPO 2007) and with sufficient participation by interested parties. To fulfill this obligation, IDOT developed a stakeholder involvement plan for the preparation of the 2012 state transportation plan update. In this plan, IDOT identified a list of stakeholders to consult with, scheduled public information meetings and meetings with interested stakeholders on a special topic, and discussed the use of other methods to inform the general public, such as project websites, newsletters, and media outreach (IDOT 2012a).

A.1.6 Develop Statewide Transportation Improvement Program (STIP)

Based on amended Civil Administrative Code of Illinois, IDOT has the responsibility to develop statewide annual and multi-year transportation improvement programs for all surface transportation modes including highways, public transit, rail, and aeronautics. Statewide annual and multi-year transportation improvement programs provide “an annual and 5-year schedule of all surface transportation improvement projects and their anticipated costs” (Illinois General Assembly 2010). IDOT is also responsible for selecting projects, nominated or recommended by IDOT itself, “counties, municipalities, mass transit districts, other local governments, MPOs, and members of the General Assembly” (Illinois General Assembly 2010) for inclusion in the annual and 5-year Statewide Transportation Improvement Program (STIP). IDOT could apply the criteria and priorities identified in the state transportation plan during project selection. One fundamental criterion is that the project shall

help the system approach the established goals and objectives from the state transportation plan (Illinois General Assembly 2010).

Every year, IDOT shall develop a multi-year highway improvement program, which together with IDOT's five-year public transportation improvement program and the Transportation Improvement Programs (TIPs) developed by MPOs in Illinois serves as the basis for the Statewide Transportation Improvement Program (STIP) (IDOT 2011). The STIP is a requirement for every state by SAFTEA-LU, and it shall contain an annual list of projects that covers a period of 4 years and be updated at least every 4 years (USGPO 2007).

In terms of choosing projects for inclusion, the following requirements have been established by SAFETEA-LU:

1. The projects shall be located within the boundary of the state;
2. The project shall have anticipated full funding within the time period of the program;
3. The project shall be consistent with the statewide transportation plan and metropolitan transportation plan if within an urbanized area;
4. The project shall be "in conformance with the applicable state air quality implementation plan developed under the Clean Air Act" if carried out in a nonattainment area;
5. The project shall "reflect the priorities for programming and expenditures of funds"; and
6. All regional significant transportation projects that require an action by the FHWA or the FTA shall be included. (USGPO 2007)

All of the projects in the current Transportation Improvement Programs (TIPs) developed by the MPOs shall be incorporated in the STIP, and other projects will be identified from the current annual and multi-year highway improvement programs and the 5-year public transportation improvement program (IDOT 2011). Once completed, the Illinois STIP will be submitted to FHWA and FTA for their approval.

A.2 MPO TRANSPORTATION PLANNING PROCESS

The following description of the MPO transportation planning process is based on federal guidance provided by FHWA and FTA (2007), SAFETEA-LU (USGPO 2007), and state guidance provided by IDOT (IDOT 2006, 2007e) and MPO's planning studies from CUUATS (CUUATS 2007) and CMAP (CMAP 2008a, 2008b, 2008c, 2009a, 2009b, 2009c, 2010a, 2010b, 2010c, 2010d, 2012a, 2012b).

A.2.1 Develop Regional Goals and Objectives

The first step in the MPO planning process is to build regional goals as the guidance for all the planning efforts regardless of time frame and individual projects. The regional goals describe what the MPO wants to achieve in terms of desired environment, economy, social system, and governance structures in the long-term future as well as the means by which to achieve them (CUUATS 2007). Regional goals are direct reflections of the overarching needs of the metropolitan area and require proper public involvement. For example, in developing the GO TO 2040 comprehensive regional plan, Chicago Metropolitan Planning Agency (CMAP), together with local stakeholders, identified the following goals under four themes: "Livable Communities, Human Capital, Efficient Governance, and Regional Mobility":

1. "Achieve Greater Livability through Land Use and Housing;
2. "Manage and Conserve Water and Energy Resources;
3. "Expand and Improve Parks and Open Space;

4. “Promote Sustainable Local Food;
5. “Improve Education and Workforce Development;
6. “Support Economic Innovation;
7. “Reform State and Local Tax Policy;
8. “Improve Access to Information;
9. “Pursue Coordinated Investments;
10. “Invest Strategically in Transportation;
11. “Increase Commitment to Public Transit;
12. “Create a More Efficient Freight Network.” (CMAP 2010d)

Based on the established goals, an MPO shall also establish measurable objectives and a set of performance measures related to each objective to help organize the implementation of regional goals into manageable parts. The objectives and performance measures shall be consistent with regional goals and easily understood by the public and decision maker (CUUATS 2007). An example of a goal, its related objectives and measures of effectiveness—established by CMAP—is shown in Table 28 (CMAP 2010d).

Table 28. Sample of Goal, Objectives, and Measures of Performance

Goal	Increase Commitment to Public Transit	
Objectives	Increase transit ridership per weekday to 2.3 million by 2015	Increase the percentage of residents and jobs with access to transit to 69% and 77%, respectively, by 2015
	Increase transit ridership per weekday to 4.0 million by 2040	Increase the percentage of residents and jobs with access to transit to 75% and 80%, respectively, by 2040
Measures of Performance	Transit ridership per weekday	Population and jobs with access to transit

A.2.2 Understand Existing Conditions

As part of the planning process, MPOs will conduct extensive studies of existing land use, environmental, and transportation, social, and economic conditions throughout the urbanized area to depict where the region stands in measurable terms. These studies involve collecting current data, which is the basis for MPOs to conduct future projections and recommend improvement strategies (CUUATS 2007). These studies include topics from fundamental issues like population to regional priorities like air quality and sustainability.

The 14 MPOs in Illinois all face different transportation issues during the planning process; their regional priorities are different as a result. For example, in Champaign-Urbana Metropolitan Area, there is an increasing demand for public transit and other non-auto modes due to the growing number of college-age students (IDOT 2007e), while in Chicago Metropolitan Area (CMA) air quality is of at most priority since CMA is in “nonattainment” with federal standards (CMAP 2008a).

A.2.3 Forecast Future Conditions

In order to make positive changes towards the regional goals, an MPO shall not only examine where the community stands in the current situation, but also where the community would like to be in the long-term future. MPOs typically rely on the findings from existing conditions and regional goals, and use best planning practices and prediction models to forecast future conditions.

For different metropolitan areas, MPOs identify different existing conditions and establish different regional goals, and the future conditions forecasted will contain different elements. For example, for the Chicago Metropolitan Area, CMAP describes future conditions in terms of the region's quality of life, natural environment, social systems, economy, and governance (CMAP 2010a).

Despite the differences in different metropolitan areas, all MPOs shall include travel demand in their future condition analysis. There are two main techniques that MPOs use for developing estimates of future travel demands. The first is historical trend analysis, which plots historical demand levels over time and then extrapolating the trend into the future (FHWA and FTA 2001). The other is building travel demand model, which analyzes the key factors influencing transportation demand. For example, CMAP has developed a travel demand model to forecast transportation system use under a variety of socioeconomic conditions and public policy scenarios (CMAP 2010d).

A.2.4 Evaluate and Prioritize Strategies

Based on the understanding of existing conditions and the description of future conditions, an MPO shall also propose and evaluate different planning strategies to achieve regional goals. In order to understand which planning strategies are most effective at meeting regional goals, an MPO will collaborate with other regional planning agencies to conduct a series of comprehensive studies on a variety of social, economic, environmental, and transportation issues, which have fundamental impact in shaping the future of the metropolitan area. For example, during the development of GO TO 2040 regional transportation plan, CMAP has researched and recommended planning strategies on land use, environment, transportation, housing, economic development, and human and community development in cooperation with agencies like the Chicago Community Trust (CMAP 2012b). To further select which improvement strategies to implement in the Metropolitan Transportation Plan (MTP), the MPO can apply the performance measures described in the previous section to evaluate and prioritize different strategies. For example, when choosing the appropriate strategies for inclusion in the GO TO 2040 comprehensive regional plan, CMAP created a number of alternative future scenarios that adopted a different combination of planning strategies, and evaluated the implications of these scenarios on the planning region through a series of regional indicators (CMAP 2009b).

A.2.5 Choose Major Projects

Based on the selected strategies, transportation agencies shall propose major capital projects to improve the efficiency and effectiveness of the current transportation system. Major capital projects are those large projects that significantly affect the capacity of the regional transportation system. These projects include extensions or additional lanes on the interstate system, entirely new expressways, or similar changes to the passenger rail system. As limited budgets requires MPOs to spend available resources more wisely, a project prioritization process is necessary to choose appropriate major projects.

In order for the major projects in the region to be eligible to receive federal transportation funds, the projects have to be fiscally constrained and not to exceed pollution emission limits. In terms of pollution limit, the emission from the proposed projects plus the emissions from the existing transportation system should not exceed the regional air quality budget, or limits set by Illinois EPA.

In addition, proposed major capital projects “would also be evaluated against measures assessing how well they perform in light of regional indicators, as well as planning factors established by the USDOT” (CMAP 2010b).

A.2.6 Develop Unified Planning Work Program

The Unified Planning Work Program (UPWP) establishes the framework of MPO planning process by providing a list of the transportation tasks and studies to be conducted by the MPO staff or a member agency in one to two years (FHWA and FTA 2007). Although UPWP varies from one MPO to another as a reflection of regional priorities, every UPWP shall include the following elements:

1. The planning tasks and studies including the development of the required MPO documents (MTP, TIP, and UPWP) and other “planning and implementation studies as travel surveys, safety studies or analyses of proposed a new bus lines or roadways”;
2. “All federally funded studies as well as all relevant state and local planning activities conducted without federal funds”;
3. “Funding sources identified for each project”;
4. The schedule of all the planning activities;
5. “The agency responsible for each task or study” (IDOT 2006; IDOT 2007e)

A.2.7 Develop Metropolitan Transportation Plan

In general, the Metropolitan Transportation Plan (MTP) depicts the vision of the metropolitan area, evaluates the current transportation systems as well as the proposed transportation strategies and programs. In this way, it provides guidance for transportation investment decisions for the planning area over the next 20 to 30 years. A typical MTP plan shall include:

1. “Policies, strategies, and projects for the future;
2. “A systems level approach by considering roadways, transit, non-motorized transportation, and intermodal connections;
3. “Projected demand for transportation services over 20 years;
4. “Regional land use, development, housing, and employment goals and plans;
5. “Cost estimates and reasonably available financial sources for operation, maintenance, and capital investments; and
6. “Ways to preserve existing roads and facilities and make efficient use of the existing system” (FHWA and FTA 2007)

Although it covers a long time-range, the MTP shall be prepared and updated by MPO at least every 3 years or every 5 years if the area is designated or once was designated as nonattainment. The MPO shall ensure that the MTP is consistent with the Long-Range Transportation Plan (LRTP) developed by IDOT.

A.2.8 Develop Metropolitan Transportation Improvement Program

The metropolitan Transportation Improvement Program (TIP) reflects the region’s way of allocating its limited transportation resources among the different capitals and operating needs of the region, on the basis of clear set short-term transportation priorities. The TIP covers a minimum 4-year period of projects and strategies. It contains all federal supported projects. It shall get approval from both the MPO and the Governor and its update cycle shall be no longer than four years. It is incorporated directly without any change into the STIP. A financial plan to ensure all the projects included in the TIP are fiscally constraint is needed (FHWA and FTA 2007).

A.2.9 Congestion Management Process

Based on federal requirement, MPOs in metropolitan planning areas designated as TMAs shall develop and implement a congestion management process (CMP) as an integrated part of the MPO planning process (FHWA 2011). According to SAFETEA-LU, the congestion management process is "a process that provides for safe and effective integrated management and operation of the multi-modal transportation system, based on a cooperatively developed and implemented metropolitan-wide strategy, of new and existing transportation facilities" (USGPO 2007). The FHWA has defined a process Model for CMP as a guideline for implementing successful CMP in compliance with federal regulations (FHWA 2011). The process mode consists of the following steps that mirrors the elements of MPO planning process in many perspectives, which provide opportunities for implementing the CMP in conjunction with, or completely integrated, with, the overall MPO planning process:

1. Develop Regional Objectives for Congestion Management: The congestion management objectives define what the regions want to accomplish in terms of congestion management. The objectives can be developed separately based on the goals articulated in the Metropolitan Transportation Plan (MTP) or as a part of the MPO planning process and incorporated directly into the MTP;
2. Define CMP Network: This step defines what components of the transportation system are focused during the CMP. It requires clarification on two aspects of the system: the "geographic boundaries or area of application and the system components or network of surface transportation facilities."
3. Develop Multi-Modal Performance Measures: MPOs develop performance measures as a tool to recognize congestion problems, assess system performance, and communicate this information to the public and decision-makers. Performance measures related to congestion management could be developed in parallel with other performance measures that correspond to other goals in the MPO planning process, and used to compare improvement strategies and project alternatives in the development of the MTP.
4. Collect Data/Monitor System Performance: After the performance measures are defined, MPOs collect a large amount of data to determine the current performance of the system. The types of data that can be used in CMP include but are not limited to: traffic volume counts, speed and travel time data, archived intelligent transportation system (ITS) and operation data, other electronic traffic datasets.
5. Analyze Congestion Problems and Needs: In this step, MPOs translate the raw data collected into meaningful measures of performance and identify the specific locations and the sources of the congestion problems.
6. Identify and Assess Strategies: Based on the data and analysis, MPOs identify and evaluate appropriate congestion mitigation strategies to effectively manage congestion and achieve congestion management objectives. This step is similar to the development and prioritization of other types of improvement strategies, and has the potential to be incorporated in the MPO planning process.
7. Program and Implement Strategies: This step involves the implementation of CMP strategies on three levels: regional, corridor, and project. The strategy implementation at the regional level provides an opportunity to integrate CMP into MPO planning process when MPOs use the CMP in criteria for prioritizing projects for inclusion in MTP and metropolitan Transportation Improvement Program (TIP).
8. Evaluate Strategy Effectiveness: To ensure that the implemented strategies are effective in achieving the congestion management objectives, and make corresponding changes accordingly, MPOs conduct performance evaluation after the strategies have been

implemented. The findings of the evaluation should be reflected in the future MTP and TIP so that strategies that show improvement in congested conditions are encouraged for further implementation, while strategies that show negative feedbacks are downplayed in similar situations. (FHWA 2011)

A.3 NEPA PROCESS

This section is not intended to provide a detailed, complete description of the NEPA process, but to summarize the process and its main elements. For a detailed, complete description of the NEPA process, please refer to the following sources/documents:

1. A Citizen's Guide to the NEPA by the Council on Environmental Quality (CEQ; CEQ 2007)
2. A Guide to Transportation Decision Making by the U.S. Department of Transportation (U.S.DOT), FHWA, and FTA (USDOT et at. 2009)
3. Bureau of design and environment manual by IDOT (IDOT 2010)
4. Code of Federal Regulation, Title 23 Highways, Part 771 Environmental impact and related procedures by the U.S. Government Printing Office (U.S.GPO; USGPO 2012a)
5. Code of Federal Regulation, Title 40 Protection of Environment, Volume 34, Chapter V Council on Environmental Quality, Part 1500-1508 by U.S.GPO; USGPO 2012b)
6. Director's Order # 12: Conservation Planning, Environmental Impact Analysis, and Decision-Making by the U.S. National Park Service (U.S.NPS; USNPS 2007)
7. NEPA's Forty Most Asked Questions by CEQ (CEQ 2006)
8. United States Code, Title 42 Sec. 4331 Congressional declaration of national environmental policy by U.S.GPO (USGPO 2006)
9. National Environmental Policy Act (NEPA) Basic Information by U.S. EPA (USEPA 2012)

A.3.1 Summary of the NEPA Process

The NEPA process starts with a federal agency proposing an action to address a need. If the action is proposed by or involves more than one federal agency, a lead agency shall be designated to supervise the preparation of the environmental analysis. Some complex proposals may contain several related actions that are functionally dependent or in geographical proximity with each other. If these proposals involve more than one federal agency, a lead agency shall also be designated to take the responsibility for compliance with NEPA. In addition to the lead agency, if other federal, state, tribal, or local agencies have NEPA responsibilities, they can form a joint lead agency with at least one federal agency (USGPO 2012b).

Upon designation, the lead agency shall invite other federal, state, tribal or local agencies as cooperating agencies. Any federal, state, tribal or local agency that has jurisdiction by law and special expertise with respect to any environmental issue can be a cooperating agency. To facilitate the management of the NEPA process, a cooperating agency shall fulfill the following responsibilities:

1. Coordinating with the lead agency in the NEPA process at the earliest possible time;
2. Participating in the scoping process to identify significant issues and determine their scope;
3. Developing information and preparing environmental analyses including parts of the Environmental Impact Statement (EIS) on which the cooperating agency has special expertise;
4. Providing available staff in support of the lead agency's interdisciplinary capacity; and

5. Funding the major activities and analyses to the most possible extent. (USGPO 2012b)

After the lead agency and cooperating agencies have been determined, the NEPA process proceeds to the initial analytical stage where the agency will decide whether to pursue the path of a Categorical Exclusion (CE), an Environmental Assessment (EA), or an Environmental Impact Statement (EIS) (CEQ 2007).

Typically, a federal agency would have developed its own lists of actions eligible for CEs, EA, and EIS specific to its operations based on an agency's experience with NEPA implementation. For example, the FHWA has defined three classes of actions that require different levels of NEPA documentations and provided some examples for each class in 23 CFR 771 (USGPO 2012a). The three classes of actions are Class I actions, which require EIS; Class II actions, which require CE; and Class III actions, which require EA (USGPO 2012a).

If the environmental impact of the proposed action is likely to be significant and the proposed action is in the agency's CE list, the lead agency will pursue a CE process. In CE process, the lead agency prepares a CE after confirming that the proposed action will not involve any extraordinary circumstance.

If there are uncertainties about whether the proposed action will have significant environmental impact or the proposed action involves extraordinary circumstance, the lead agency shall follow the EA process where a comprehensive environment assessment will be conducted. In case no significant environmental impact has been found, a Finding of No Significant Impact (FONSI) will be issued. If significant environmental effects have been detected for the proposed action during the EA process, the lead agency will have to trigger an EIS process.

If in any stage of the NEPA process, significant environment impact is identified for the proposed action, the lead agency will follow the EIS process where an EIS will be prepared. The EIS process starts with a Notice of Intent (NOI) to prepare the EIS. After public scoping and appropriate public involvement, a draft EIS will be developed to receive review and comment from Resource Agencies and the general public. Once all the issues from the comments have been addressed, a Final EIS will be published and submitted to federal agency for approval. The Record of Decision (ROD) will be issued after the decision has been made.

The following subsections will provide a more detailed description of the CE, EA, and EIS process, respectively.

A.3.2 Categorical Exclusion (CE) Process

The references used for this section are listed below:

- 23 CFR 771.115(b) "Class II (CEs)" Action Definition (USGPO 2012a)
- 23 CFR 771.117(b) "Unusual Circumstances" Definition (USGPO 2012a)
- 40 CFR 1507.3 "Agency procedures" (USGPO 2012b)
- 40 CFR 1508.4 "Categorical Exclusion" Definition (USGPO 2012b)
- Section I of FHWA Technical Advisory T6640.8A "Categorical Exclusion (CE)"
- A Citizen's Guide to the NEPA "Implementing the NEPA process" (CEQ 2007)
- Illinois Bureau of Design and Environment Manual Chapter 23 "Categorical Exclusion" (IDOT 2010)

According to 40 CFR 1508.4, if the proposed actions "do not individually or cumulatively have a significant effect on the human environment"—as determined through the procedures adopted by a federal agency in implementation of the 40 CFR 1507.3, then "neither an environmental assessment

nor an environmental impact statement is required" (USGPO 2012b). The FHWA environmental regulations (23 CFR 771) define categorical exclusions (CEs) as "Class II actions that meet the definition contained in 40 CFR 1508.4, and, based on past experience with similar actions, do not involve significant environmental impacts" (USGPO 2012a). According to 23 CFR 771.117, these are defined as actions that:

- "Do not induce significant impacts to planned growth or land use for the area;
- "Do not require the relocation of significant numbers of people;
- "Do not have a significant impact on any natural, cultural, recreational, historic, or other resources;
- "Do not involve significant air, noise, or water quality impacts;
- "Do not have significant impacts on travel patterns; and
- "Do not otherwise, either individually or cumulatively, have any significant environmental impacts." (USGPO 2012a)

Subsequently, if a proposed action is eligible for CE, the agency must review it to make sure no unusual circumstances exist that may cause the proposed action to have a significant environmental impact. Unusual circumstances may cause effects to endangered species, protected cultural sites, and wetlands (CEQ 2007). In 23 CFR 771.117 (b), FHWA defined unusual circumstances as:

- "Significant environmental impacts;
- "Substantial controversy on environmental grounds;
- "Significant impact on properties protected by section 4(f) of the DOT Act or section 106 of the National Historic Preservation Act; or
- "Inconsistencies with any Federal, State, or local law, requirement or administrative determination relating to the environmental aspects of the action." (USGPO 2012a)

The federal agency must prepare an EA or EIS if the proposed action(s) cannot satisfy the description provided by the agency's CE list, or unusual circumstances have been detected (CEQ 2007). Most projects developed by IDOT qualify as CEs (IDOT 2010).

A statewide implementation agreement, commonly referred to as a CE Agreement, has been developed in conformance with 23 CFR 771.117 to address the development and approval of CEs in Illinois (IDOT 2010).

The CE process is summarized in Figure 17 (adapted from IDOT 2010-Chapter 23). It is composed of seven subprocesses or activities:

- Activity 01 Initiate CE process
- Activity 02 Inventory and Evaluate Project Alternatives
- Activity 03 Initiate Early Coordination
- Activity 04 Evaluate Alternatives for Unusual Circumstances
- Activity 05 Prepare Environmental Documentation
- Activity 06 Notify Public/Affected Agencies
- Activity 07 Secure CE Approval

For a more detailed description of the CE classifications, procedure, and required documents; please refer to Illinois Bureau of Design and Environment Manual (IDOT 2010-Chapter 23).

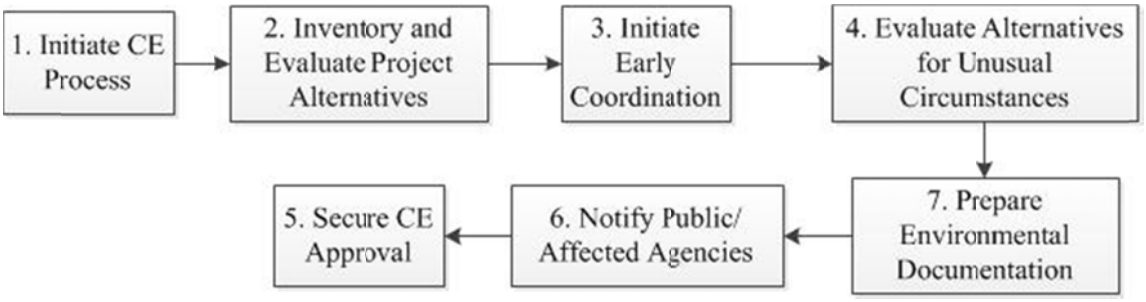

Figure 17. Categorical exclusion (CE) process flow chart.

A.3.3 Environmental Assessment (EA) Process

The references used for this section are listed below:

- 23 CFR 771.119 “Environmental Assessment” (USGPO 2012a)
- 40 CFR 1501.3 “When to prepare an environmental assessment” (USGPO 2012b)
- 40 CFR 1508.9 “Environmental Assessment” (USGPO 2012b)
- 40 CFR 1508.13 “Finding of No Significant Impact” (USGPO 2012b)
- 40 CFR 1508.27 “Significantly” (USGPO 2012b)
- A Citizen’s Guide to the NEPA “Implementing the NEPA process” (CEQ 2007)
- A Guide to Transportation Decision Making (USDOT el at. 2009)
- Illinois Bureau of Design and Environment Manual Chapter 24 “Environmental Assessment” (IDOT 2010)

The FHWA regulation in 23 CFR 771.119 states that an EA shall be prepared “for each action that is not a CE and that does not clearly require the preparation of an EIS, or where the Administration (FHWA) believes an EA would assist in determining the need for an EIS” (USGPO 2012a). An EA shall be prepared for any proposed action that the significance of its environmental impact is not clearly established (USGPO 2012b). Proposed actions that have several indicators of unusual circumstances or have potential for public controversies based on environmental issues are typically considered as candidates requiring an EA (IDOT 2010).

In this scenario, the agency shall cooperate with environmental agencies, applicants, and the public, to the practicable extent in preparing an EA that concisely provides adequate evidence and analysis for determining whether an EIS is needed (USGPO 2012b). According to 40 CFR 1508.9 (USGPO 2012b), an EA is a concise public document that serves to:

- Briefly provide sufficient evidence and analysis for determining whether to prepare an EIS or a FONSI; and
- Facilitate the preparation of an EIS when one is necessary.

An EA shall contain brief discussions of:

1. The need for the proposal;
2. Alternative actions of the proposal;

3. The environmental impacts of the proposed action and alternatives; and
4. A listing of agencies and persons consulted. (USGPO 2012b)

The purpose of an EA is to evaluate the significance of a proposal for agency actions; it should focus on the context and intensity of effects that may significantly affect the human environment (USGPO 2012b).

In case no significant effect on the human is foreseen, the EA process will conclude with a FONSI. FONSI is a document where the agency briefly presents the reasons why the proposed action will have no significant impact on the human environment. The FONIS shall include the EA or a summary of it, or incorporate it by reference (USGPO 2012b).

If, after the EA is prepared, it turns out that the proposed action has a significant impact on the environment, an EIS is then prepared (USDOT et al. 2009).

The CE process is summarized in Figure 18 (adapted from IDOT 2010-Chapter 24). It is composed of 19 subprocesses or activities:

- Activity 01 Initiate EA
- Activity 02 Define Preliminary Project Scope
- Activity 03 Initiate Public Involvement/Early Coordination
- Activity 04 Comply with CSS Requirements/Conduct Public Meeting
- Activity 05 Conduct Purpose and Need Coordination
- Activity 06 Determine and Evaluate Reasonable Alternatives
- Activity 07 Conduct Range of Alternatives Coordination
- Activity 08 Prepare Preliminary EA
- Activity 09 Review Preliminary EA
- Activity 10 Approve EA and Make Available for Public Comment
- Activity 11 Implement Public Involvement Process
- Activity 12 Conduct Preferred Alternative Coordination
- Activity 13 Evaluate for Major Project Requirements
- Activity 14 Prepare EA Errata and Recommend FONSI
- Activity 15 Draft Project Management Plan for Major Projects
- Activity 16 Issue FONSI or Proceed to EIS
- Activity 17 Finalize Project Management Plan for Major Projects
- Activity 18 File Statute of Limitations Notice (Optional)
- Activity 19 Monitor Construction

For a more detailed description of the EA process, please refer to Illinois Bureau of Design and Environment Manual (IDOT 2010-Chapter 24).

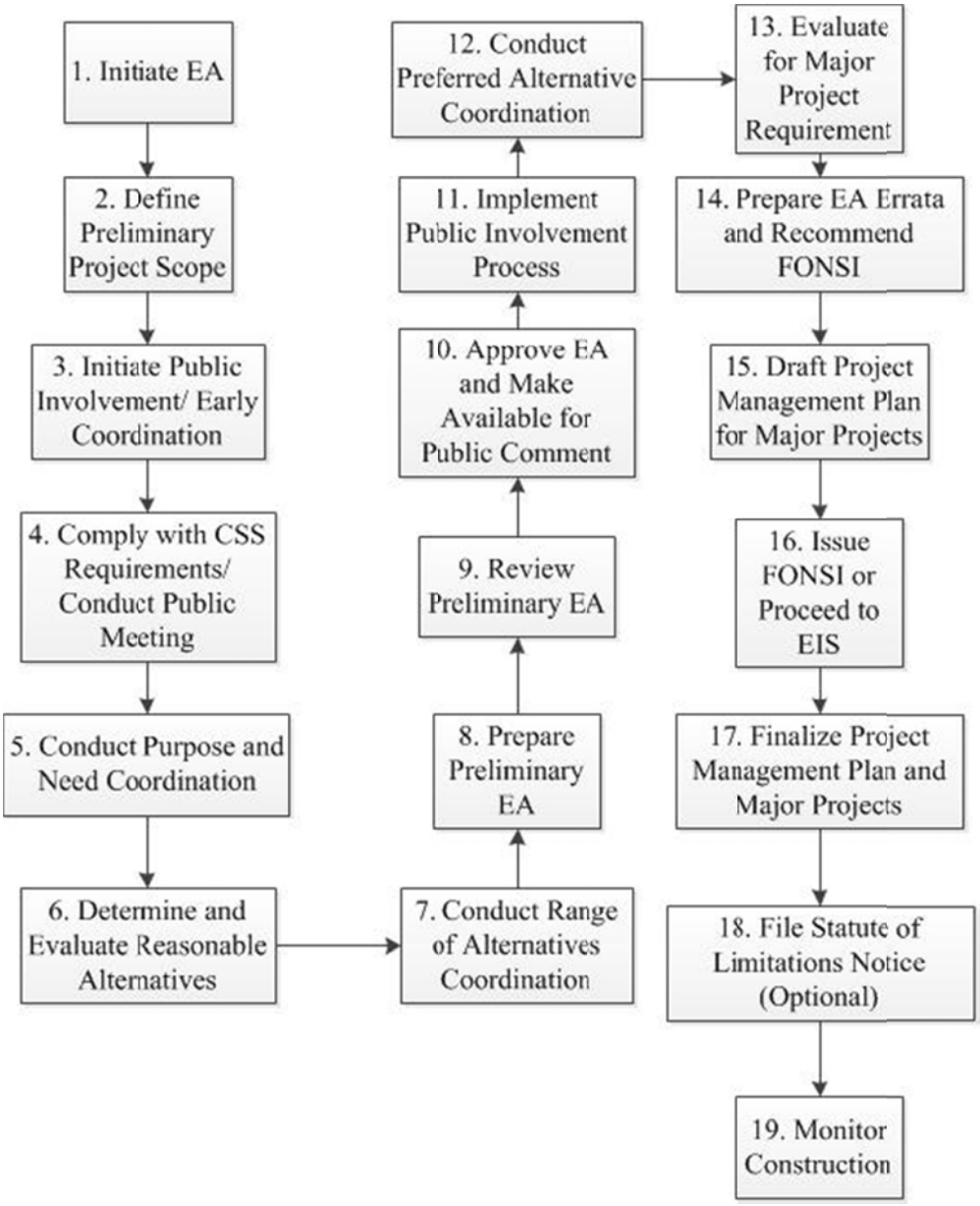

Figure 18. Environmental assessment (EA) process flow chart.

A.3.4 Environmental Impact Statement (EIS) Process

The references used for this section are listed below:

- 23 CFR 771.115(b) “Class I (EIS)” Action Definition (USGPO 2012a)
- 40 CFR 1501.4 “Whether to prepare an environmental impact statement” (USGPO 2012b)
- 40 CFR 1502.22 “Notice of Intent” (USGPO 2012b)
- 40 CFR 1501.7 “Scoping” (USGPO 2012b)
- 40 CFR 1502.9 “Draft, final, and supplement statements” (USGPO 2012b)
- 40 CFR 1502.13 “Purpose and Need” (USGPO 2012b)

- 40 CFR 1502.14 “Alternatives including proposed action” (USGPO 2012b)
- 40 CFR 1502.15 “Affected environment” (USGPO 2012b)
- 40 CFR 1502.16 “Environment consequence” (USGPO 2012b)
- 40 CFR 1502.2 “Record of decision in cases requiring environmental impact statements” (USGPO 2012b)
- A Citizen’s Guide to the NEPA “Implementing the NEPA process” (CEQ 2007)
- Director’s order # 12: conservation planning, environmental, impact analysis, and decision-making (USNPS 2007)
- Illinois Bureau of design and environment manual Chapter 25 Environmental Impact Statement (IDOT 2010)
- NEPA’s Forty Most Asked Questions 4a. “Agency’s Preferred Alternative” (CEQ 2006)
- NEPA’s Forty Most Asked Questions 6a. “Environmentally Preferable Alternative” (CEQ 2006)

The federal agency must prepare an EIS if the proposal normally requires an EIS or, if after the EA, significant environmental impact has been detected (USGPO 2012b).

The FHWA environmental regulations (23 CFR 771) define an action that significantly affects the environment and requires an EIS based on 40 CFR 1508.27 as a Class I action (40 CFR 1508.27). 23 CFR 771 provides some examples of actions that normally require an EIS:

- “A new controlled access freeway;
- “A highway project of four or more lanes on a new location;
- “New construction or extension of fixed rail transit facilities (e.g., rapid rail, light rail, commuter rail, automated guideway transit);
- “New construction or extension of a separate roadway for buses or high occupancy vehicles not located within an existing highway facility.” (USGPO 2012a)

The publication of a NOI, which states that an EIS will be prepared and considered for a particular proposal, marks the beginning of the EIS process. The NOI shall briefly:

- “Describe the proposed action and possible alternatives;
- “Describe the agency's proposed scoping process including whether, when, and where any scoping meeting will be held; and
- “State the name and address of a person within the agency who can answer questions about the proposed action and the environmental impact statement.” (USGPO 2012b)

After the lead agency publishes the NOI, it will proceed to a scoping process to determine the scope of significant issues to be addressed in the environmental review. The following is a list of responsibilities that the lead agency shall fulfill in the scoping process:

1. Invite affected or interested federal, state, tribal, local agencies or persons to participate in the scoping process;
2. Identify the scope of significant issues to be analyzed in depth in the EIS;
3. Identify and eliminate from the detailed study issues that are not significant and those that have been adequately addressed by previous environmental reviews;

4. Allocate assignments for the preparation of the EIS among the lead agency and cooperating agencies;
5. Indicate any related EAs and EISs that are available or are under preparation;
6. Identify the requirements of other environmental review and consultation that may be conducted concurrently and integrated with the EIS being prepared; and
7. Demonstrate the relationship between the timing of the preparation of environmental analyses and the agency's tentative planning and decision-making schedule. (USGPO 2012b)

As part of the scoping process, the lead agency may also set time limits for the process and page limits for environmental documents. To further ensure early coordination, the lead agency may hold scoping meetings or integrate them with other early planning meetings (USGPO 2012b).

Following the scope determined in the scoping process, the lead agency shall work with the cooperating agencies to prepare a draft EIS (DEIS). Once accomplished, the lead agency shall obtain comments from both the agencies and the broader public. Federal, state, or local agencies that have authority to accept, deny or fund the proposal, developing and executive agencies of environmental standards, and agencies that provide special perspective on environmental issues; are obligated to offer comments on the DEIS during the comment period (USGPO 2012b). The comment period shall not be less than 45 days (USGPO 2012b). In the meantime, the lead agency shall make the DEIS available to the public to receive comments from any interested or affected persons or organizations. A notice of availability will be published on the Federal Register to inform the public that the DEIS is ready for comment. Public hearing and meetings are the typical tools adopted by the lead agency to encourage public input during the comment period (CEQ 2007).

The contents of the DEIS shall be similar to the FEIS, which includes a description of the Purpose and Need of the proposed action, identification and evaluation of reasonable alternatives, conditions of the affected environment, and analysis of the projected beneficial and adverse environmental effects of all reasonable alternatives (USDOT et al. 2009).

The Purpose and Need statement in the draft EIS concisely describes why the agency wants to propose the action and what it wants to achieve. It serves as the basis for the alternative assessment section, where the lead agency shall provide a strict and unbiased evaluation of all reasonable alternatives that considerably satisfy the Purpose and Need of the agency. A reasonable alternative is defined based on technical and economic feasibility, rather than desirability from the perspective of the applicant. Proper and in-depth analysis shall be given to all reasonable alternatives or a reasonable range of alternatives to ensure the reviewers can make comparison of different alternatives in term of their economic, transportation, and environmental effect. For those alternatives excluded from the in-depth analysis, appropriate reasons shall be provided (CEQ 2007). The lead agency must include a "no action alternative" in the detailed assessment of reasonable alternatives, although this is not always a viable choice. The analysis of "no action alternative" basically explains what the environment will be like without taking the proposal into action. It will set a baseline environmental impact to determine the relative magnitude and intensity of impacts (USNPS 2007).

Based on the alternative assessment, the lead agency may also select its preferred alternative or alternatives in the DEIS. The "agency's preferred alternative" is the alternative that the agency believes would fulfill its statutory mission and responsibilities, giving consideration to economic, environmental, technical, and other factors (CEQ 2006).

Besides the alternative assessment, the DEIS shall also include a succinct description of the environment where the alternatives will have a direct impact on as well as a comprehensive analysis of environmental consequences of all the reasonable alternatives. The environmental consequences shall

cover the direct, indirect, and cumulative impacts of all reasonable alternatives whether beneficial or adverse (USGPO 2012b).

Following the public comment period, the lead agency shall “access and consider the comments both individually and collectively” (USGPO 2012b) and make corresponding responses in the final EIS. Once completed, the final EIS will be published by the lead agency and a notice of availability will also be published in the Federal Register (CEQ 2007).

The ROD is a statement that explains the final decision towards the proposed action, and it marks the end of the EIS process. The ROD shall include a review of all the alternatives evaluated by the lead agency, and identify the environmentally preferable alternative. The environmentally preferable alternative is the alternative that “causes the least damage to the biological and physical environment; it also means the alternative which best protects, preserves, and enhances historic, cultural, and natural resources” (CEQ 2006). In deciding the environmentally preferable alternative, the lead agency shall address all relevant factors including economic and technical considerations and agency statutory missions. Besides the environmentally preferable alternative, the ROD shall also discuss the mitigation plan to avoid or minimize the adverse environmental impact and summarize the corresponding monitoring and enforcement program to ensure its effective implementation (USGPO 2012b).

The CE process is summarized in Figure 19 (adapted from IDOT 2010-Chapter 25). It is composed of 31 subprocesses or activities:

- Activity 1 Initiate EIS Process
- Activity 2 Develop Environmental process Time Frames
- Activity 3 Develop Draft Stakeholder Involvement Plan
- Activity 4 Publish Notice of Intent
- Activity 5 Begin External Coordination Activities
- Activity 6 Perform Environmental Survey (Record Phase)
- Activity 7 Conduct Scoping Process/Initiate NEPA/404 Process
- Activity 8 Determine Analysis Methodologies and the Level of Detail
- Activity 9 Finalize Stakeholder Involvement Plan
- Activity 10 Conduct Context Audit
- Activity 11 Develop Project Problem Statement
- Activity 12 Conduct Purpose and Need Coordination
- Activity 13 Conduct Range of Alternatives Coordination
- Activity 14 Perform Environmental Survey (Field Record)
- Activity 15 Evaluate Alternatives in Depth
- Activity 16 Prepare/Review Preliminary DEIS
- Activity 17 Prepare DEIS for Circulation
- Activity 18 Circulate DEIS
- Activity 19 Implement Public Hearing Process
- Activity 20 Evaluate and Respond to Substantive Comments
- Activity 21 Conduct Preferred Alternative Coordination

- Activity 22 Evaluate for Major Project Requirement
- Activity 23 Prepare/Review Preliminary FEIS
- Activity 24 Prepare/process FEIS for Approval
- Activity 25 Circulate FEIS
- Activity 26 Evaluate and Respond to Substantive Comments
- Activity 27 Evaluate and Respond to Substantive Comments
- Activity 28 Sign Record of Decision
- Activity 29 Finalize Project Management Plan for Major Projects
- Activity 30 Publish Statue of Limitations Notice
- Activity 31 Implement Mitigation Measures

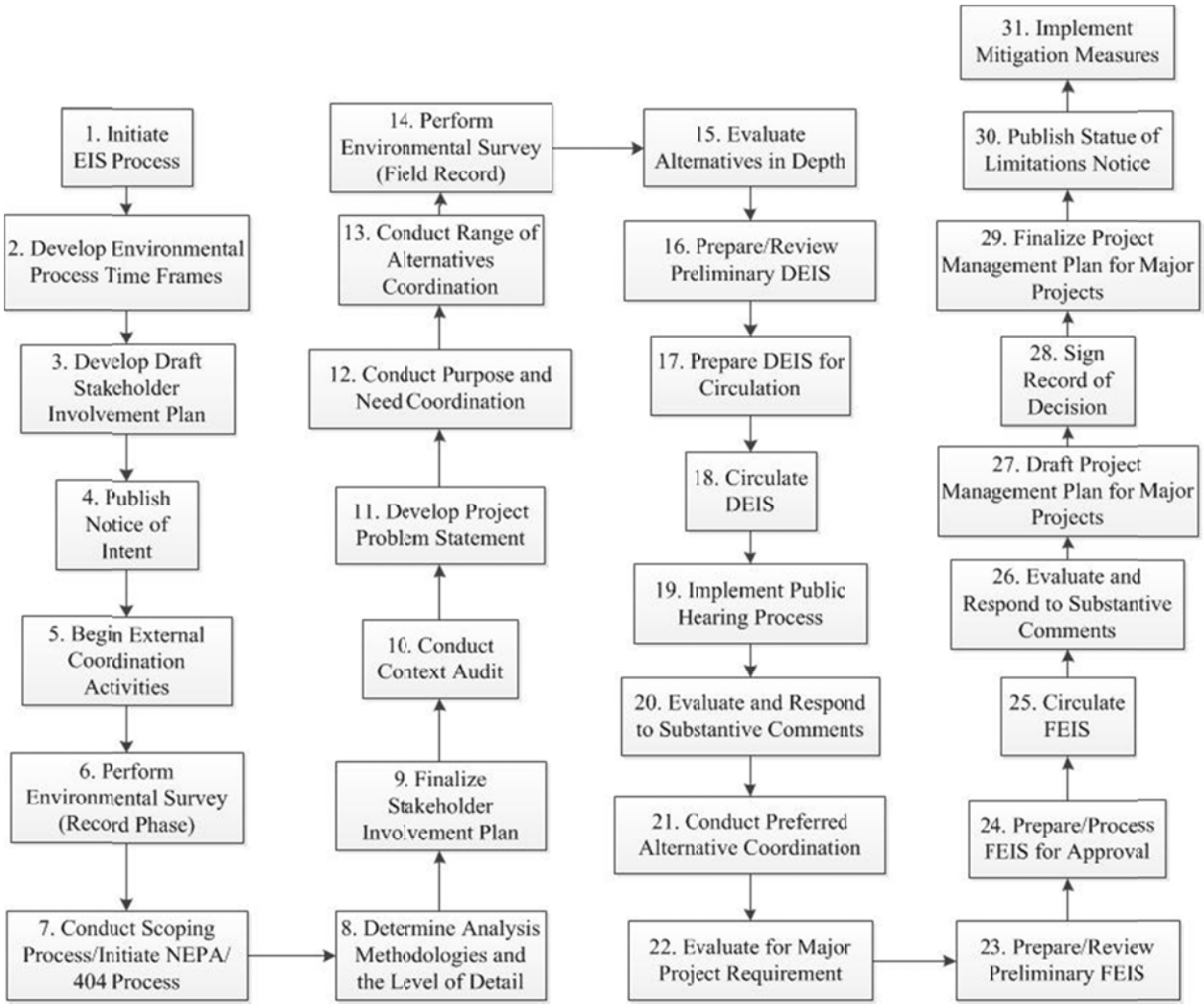

Figure 19. Environmental impact statement (EIS) process flow chart.

For a more detailed description of the EIS process, please refer to the Illinois Bureau of Design and Environment Manual (IDOT 2010, Chapter 25).

A.4 CURRENT PRACTICES OF INTEGRATING NEPA AND TRANSPORTATION PLANNING PROCESSES

A.4.1 Colorado: Strategic Transportation, Environmental, and Planning Process for Urban Places

Initiated in 2002, the Colorado Department of Transportation (CDOT), in partnership with FHWA, EPA Region 8, and North Front Range Metropolitan Planning Organization (NFRMPO), conducted the Strategic Transportation, Environmental, and Planning Process for Urban Places (STEP-UP) project. STEP-UP is an environmental streamlining pilot project aimed at integrating environmental considerations into transportation planning (USDOT and FHWA 2007a).

The whole project development process was divided into three phases with Phase 1 beginning in July 2004. In this phase, STEP-UP project goals and its implementation process were first identified. The goals include:

- Improve the current transportation planning process and develop a methodology for addressing environmental impacts of transportation projects at the earliest possible stage.
- Develop Geographic Information System (GIS)-based tools to identify and assess the environmental impacts of transportation projects and plans early on.
- Establish a Regional Cumulative Effects Assessment process for NFRMPO's Regional Transportation Plan to better evaluate the environmental impacts of transportation development. (MacDonald and Carter 2005)

Then in the following 7 months, the project team accomplished the improved process and developed an initial design of a GIS-based interactive tool to facilitate decision-making.

Phase 2 lasted from 2006 to 2007. In this phase, the project team created an environmental GIS web-based application based on data gathering and the pilot testing. After the application was created, CDOT started to prepare for its eventual statewide implementation, in the meanwhile, NFRMPO also prepared to use it in the transportation planning process which began in 2007 (TRB 2011a).

In Phase 3, STEP-UP was put into practice in the transportation planning process by NFRMPO. And up to now, STEP-UP has been applied solely in NFRMPO region because the pilot project was specifically designed for this region and will require additional resources for application in a broader level (TRB 2011a).

Ultimately, STEP-UP aims at achieving the following two goals:

- Resulting in "a model planning process for identifying environmental issues early in development of the long-range regional transportation plan; ensuring early and continued involvement by Resource Agencies; creating a better link between transportation, environmental, and land use planning; and implementing transportation improvements that protect the environment, enhance quality of life, and promote community values";
- "Improving the local project prioritization process and initiating the regional cumulative environmental assessment framework." (USDOT and FHWA 2007a)

A.4.1.1 Agencies and Organizations Involved

The following agencies and organizations were involved in the SET-UP, with CDOT and NFRMPO taking strong leadership roles in working with Resource Agencies and arranging meetings:

- Colorado Department of Transportation (CDOT)
- North Front Range Metropolitan Planning Organization (NFRMPO)
- Federal Highway Administration (FHWA)
- U.S. Environmental Protection Agency (U.S.EPA)
- U.S. Fish and Wildlife Service (U.S. FWS)
- U.S. Army Corps of Engineers (U.S. ACE)
- U.S. Department of Transportation (U.S. DOT)
- Colorado State Historic Preservation Office
- Colorado Division of Wildlife

A.4.1.2 Original Planning Process

NFRMPO is a planning agency responsible for developing regional transportation plan and transportation improvement program for the North Front Range Metropolitan Area, in cooperation with CDOT. Before adopting the integrated process produced by STEP-UP, NFRMPO followed the following steps as its standard transportation planning process:

1. Call for Projects: Regional government and CDOT prepare project proposals and submit them for inclusion in the Regional Transportation Plan (RTP).
2. Project Prioritization Process: NFRMPO reviews the candidate projects for eligibility including regional significance, and then projects are categorized, evaluated, and ranked. Originally, NFRMPO would apply no environmental criteria in this process.
3. RTP Development: Planning council would approve eligible projects for inclusion in the RTP. The RTP is composed of a vision plan and a fiscally constrained plan. Ultimately, CDOT and NFRMPO would integrate NFRMPO's RTP into the Statewide Transportation Plan (STP) and update both plans concurrently approximately every four to five years. The RTP depicts the preferred regional vision and a feasible plan identifying goals and projects to fulfill the vision. The RTP are based on the analysis of the existing transportation system including the travel and mobility demand as well as socioeconomic and demographic profile.
4. Prepare Transportation Improvement Program (TIP): The TIP contains multi-modal projects to be conducted in a 6-year schedule from the fiscally constrained portion of the RTP. It must be consistent with Colorado's State Implementation Plan for air quality. The TIP is integrated into the STIP and is updated every 2 years. (MacDonald and Carter 2005; USDOT and FHWA 2007a)

A.4.1.3 Streamlined Planning Process

Many problems were identified after an evaluation of the original NFRMPO RTP process. The original transportation planning process did not involve sufficient environmental consideration and Resource Agency participation, and failed to address planning factors such as land use and environmental impacts, in an integrated manner (MacDonald and Carter 2005). More importantly, in the original process, environmental feasibility is not considered when evaluating projects to be included in the TIP. In order to solve these problems and meet the requirements of STEP-UP, several key steps were modified and are shown in Figure 20 (MacDonald and Carter 2005). The following is a summarized description of how NFRMPO refined these key steps:

1. Regional Environmental Review: This step provides early involvement of Resource Agencies and CDOT during the development of the Long-Range Transportation Plan

(LRTP), which allows early identification of critical environmental issues and avoidance of problems which can become fatal flaws at the project level. Using the web-based GIS tool, Resource Agencies and CDOT can review environmental data, identify crucial environmental issues associated with regionally significant corridors (not specific projects), and comment on a corridor and its relationship to environmental resources. The GIS tool can also generate a checklist of potential cumulative effects within the region and by corridor.

2. Corridor Assessment and Vision Review: As part of the RTP development, this step provides early involvement of MPO members in the identification of environmental issues. In this step, MPO staff cooperates with MPO committee members to identify significant corridors, and determine and refine the visions, goals, and strategies for each corridor. A corridor is a transportation system that consists of all modes and facilities within a described geographical area (described by length and width). This step also allows MPO staff and MPO members to review environmental concerns identified by Resource Agencies and CDOT during the regional environmental review and address them in the vision statement.
3. RTP Project Submittal: In this step, MPO members develop project proposals to submit using the information provided on environmental issues and regionally significant corridors. The MPO then uses the same information to evaluate the projects after they are submitted. If the projects meet the eligibility criteria set in the project prioritization and screening process after a pre-screen, it goes through the next step conducted by the MPO.
4. Project Prioritization and Screening process: In this step, the MPO evaluates the projects submitted by local agencies for inclusion in the RTP using preset criteria including an environmental impacts criterion. The criterion is based on the data generated by the GIS tool including the environmental data and the review comments by Resource Agencies and CDOT, and the environmental concerns identified by Resource Agencies and CDOT during the regional environmental review. This step enables the MPO to review and comment on the RTP candidate projects with specific data, which may lead to more accurate estimation of project cost and timing.
5. Regional Transportation Plan Document: The RTP includes a Vision Plan and a Fiscally Constrained Plan. The Vision Plan lists multi-modal transportation needs in each corridor for at least a 20-year period. All candidate projects are categorized and prioritized to develop a list of projects ranked in order of significance to the region. Projects with high priority that are likely to be funded would be included in the Fiscally Constrained Plan. This step provides a quantitative means of considering environmental data and a venue for Resource Agency input to facilitate projects categorization and prioritization.
6. Pre-TIP Environmental Review and Scoping: In this step, CDOT, FHWA, Resource Agencies, and project sponsors conduct a more comprehensive environmental evaluation of the top few projects on the RTP before they move into the TIP. Environmental evaluation includes determination of the appropriate NEPA class of action (CE, EA, and EIS) for each project, identification of Resource Agencies, development of Purpose and Need, and cost estimates of environmental/NEPA studies. The information generated from the previous step and the GIS-based tool facilitates the evaluation process.
7. TIP/STIP Document: In this step, the MPO prepares a list of projects to be funded over the next 6 years, updating the list at least every 4 years. To be eligible for funding, a project must be integrated into the STIP.

8. Project Development: In this step, the projects identified in the TIP/STIP go through the following steps by CDOT and the project sponsor:
    - NEPA documentation
    - Permitting
    - Preliminary design
    - Right-of-Way (ROW) acquisition
    - Final design
    - Construction (MacDonald and Carter 2005)

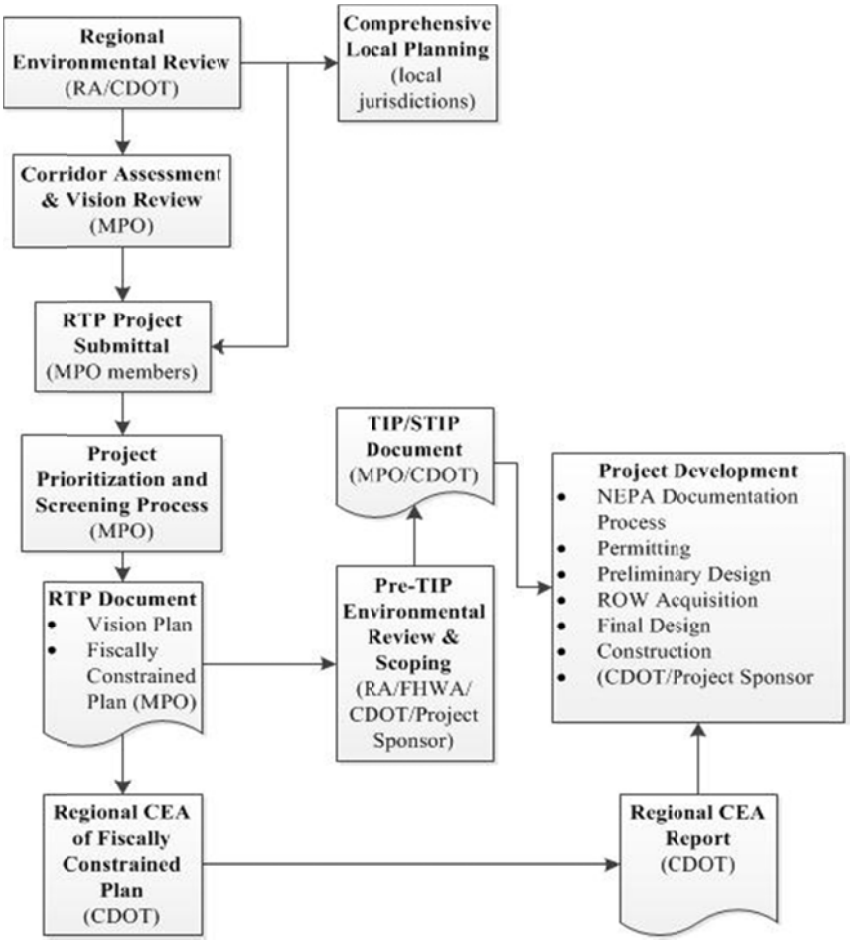

Figure 20. Modified RTP development process flow chart.

A.4.1.4 Main Elements and Features of the Streamlined Process

The following elements and features characterize the streamlined process:

1. Streamlined Planning Process (USDOT and FHWA 2007a): As illustrated in Figure 20, the modified RTP process successfully links NEPA decision-making with transportation planning by integrating environmental review and screening into the RTP process. The modified RTP process attempts to include the studies, analyses, and conclusions of transportation planning process into the NEPA process in order to reduce redundant work (Oppermann

2007). For example, the streamlined process would use the goals within the corridor vision developed in the planning process as the basis to define the Purpose and Need statement for NEPA documents (Oppermann 2007). The integrated process also provides opportunities for early and continuous agency and public participation from the regional environmental review process to the final project development.

2. User-Friendly Web-Based Decision-Making Tool (TRB 2011a): Resource Agencies, local jurisdictions, and planning agencies can have full access to the tool via the Internet using a standard browser. Using this tool, a user can review data in one or more layers and provide comments for all participating users for consideration and response. Figure 21 shows a snapshot of the web-based decision-making support tool (TRB 2011a).
3. Scheduled Cooperation and Interaction Process (USDOT and FHWA 2007a): During the development process (from 2003 to 2007), meetings with all participating agencies were held at least once per month. Once the process was underway, meetings occurred once every 6 months.
4. Interagency Cooperation (USDOT and FHWA 2007a): Staff-level representatives from NFRMPO, CDOT, U.S. EPA, FHWA, U.S. ACE, and U.S. FWS formed a steering committee to attend every meeting in the development process and each Resource Agency voluntarily dedicated a staff member who could participate in the STEP-UP meetings and provide input on the initiative.

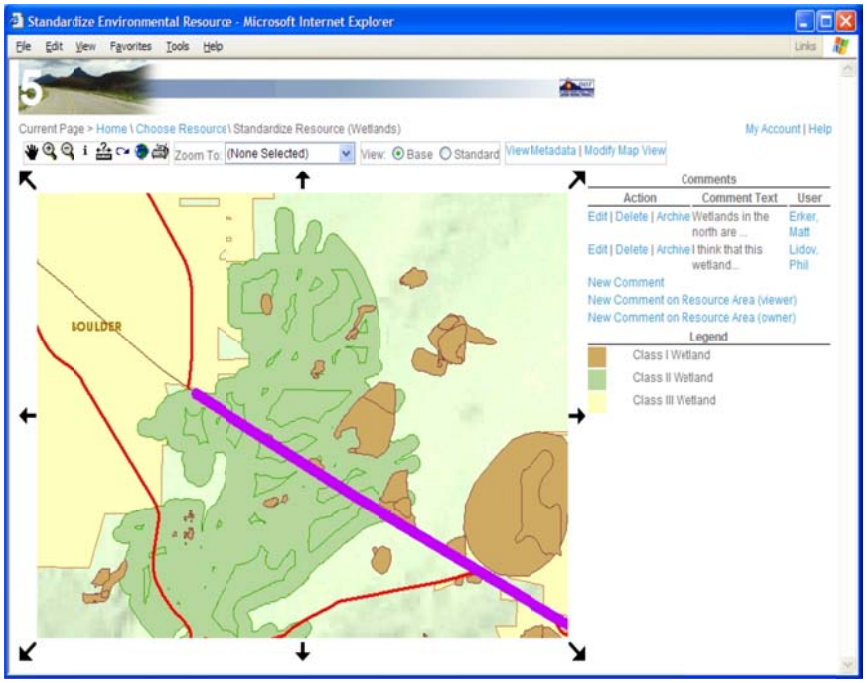

Figure 21. Screen capture of the STEP-UP Web-based tool.

A.4.2 Florida: Efficient Transportation Decision-Making Process

In 2000, the Florida Department of Transportation (FDOT) initiated the Efficient Transportation Decision-Making (ETDM) process in an executive summit with federal, state, and local agency representatives. The fundamental goal of the ETDM process is to develop a process for early and continuous Resource Agency input into the FDOT environmental review, decision-making, and

permitting process to make project delivery more efficient and less costly (USDOT and FHWA 2007b). After three years of efforts, the project team developed the ETDM process that is composed of three phases: Planning Screen, Programming Screen, and Project Development.

During the Planning Phase, Resource Agencies review the Purpose and Need Statement, and comment on the potential environmental impacts. These comments help FDOT and MPOs determine the feasibility of proposed projects identified in their Long-Range Transportation Plans (LRTPs). In this phase, planners are able to avoid or minimize impacts by adjusting project concepts, develop alternatives, and produce accurate cost estimates by examining more detailed environmental and transportation issues. The Programming Screen occurs when those projects are being considered for funding in the FDOT Work Program or MPO Transportation Improvement Program (TIP). Planning and Programming Screens give Resource Agencies the opportunity to identify project-specific environmental issues. In this way, the Planning and Programming Screens allow for early development of avoidance/minimization strategies and mitigation measures, and early identification and elimination of "fatally flawed" projects from additional study (FDOT 2006).

The project team also developed the Environmental Screening Tool (EST), an Internet-accessible interactive database for documenting project changes, evaluating impacts, and communicating project details to agencies and the public.

A.4.2.1 Agencies and Organizations Involved

The following agencies and organization were major participants in developing the ETDM process, with FDOT taking strong leadership roles in working with Resource Agencies and arranging meetings:

- Advisory Council on Historic Preservation
- Federal Highway Administration (FHWA)
- Federal Transit Administration (FTA)
- National Marine Fisheries Service (NMFS)
- National Park Service (NPS)
- National Resources Conservation Service (NRCS)
- U.S. Army Corps of Engineers (U.S. ACE)
- U.S. Coast Guard (U.S. CG)
- U.S. Environmental Protection Agency (U.S .EPA)
- U.S. Fish and Wildlife Service (U.S. FWS)
- U.S. Forest Service (U.S. FS)
- Florida Department of Agriculture and Consumer Services
- Florida Department of Community Affairs
- Florida Department of Environmental Protection
- Florida Department of State
- Florida Department of Transportation (FDOT)
- Florida Fish and Wildlife Conservation Commission
- Florida Metropolitan Planning Organization Advisory Council

- State Historical Preservation Officer
- Northwest Florida Water Management District (NWFWMD)
- South Florida Water Management District
- Southwest Florida Water Management District
- St. Johns River Water Management District
- Suwannee River Water Management District
- The Seminole Tribe of Florida
- The Miccosukee Tribe of Indians of Florida

A.4.2.2 Original Planning Process

The original planning process established throughout the FDOT's Districts includes the following steps:

1. Mobility Planning: In this step, FDOT and MPOs develop the regional vision that addresses mainly the mobility needs of the transportation system and prepare project proposals to fulfill the vision.
2. Long-Range Transportation Plan (LRTP): After mobility planning, FDOT and MPOs evaluate the proposed projects and select appropriate ones based on regional priorities. Then FDOT and MPOs develop a cost feasibility plan for the selected projects to be included in the LRTP.
3. FDOT Work Program: In this step, MPOs and local governments provide a priority list of projects to FDOT, and they together develop a 5-year program for all transportation projects planned for each fiscal year. This work program aids FDOT in planning projects, financial forecasting, and measuring accomplishments of the FDOT. It also provides opportunities for public involvement.
4. Transportation Improvement Program (TIP): Federally funded projects listed in the first 4 years of the FDOT 5-Year Work Program are then transferred to the state transportation program developed by FDOT. An MPO prepares its TIP that contains all federally funded as well as state-funded projects in the region. An MPO's TIP gets included without change in the STIP.
5. Project Development and Environmental Phase: In this step, the NEPA process is initiated and the project team completes the project design and applies for permits from Resources Agencies. (FDOT 2001)

To develop a streamlined planning and project development process, FDOT, in cooperation with FHWA, FTA, and other federal, state, and local agencies evaluated Florida's original transportation planning, project development, and environmental processes and identified the following problems:

1. During the transportation planning process, MPOs and FDOT have focused only on the mobility needs of the transportation system and gave little consideration to the potential direct, secondary, and cumulative impacts of transportation decisions on the communities' environment.
2. MPOs and FDOT receives minimal input from Resource Agencies when identifying projects for inclusion in the LRTP. Since Resource Agencies' participation occurs only in the project development process, sometimes decades after a transportation decision was made, the environmental impacts are not considered in the project prioritization process.

3. When priority projects enter the FDOT Work Program, it usually takes another 5 years before any substantial planning and environmental analyses are conducted. As a result, when it reaches the project development phase, the project would gain so much public momentum that a decision not to build the project due to substantial environmental or social impacts is almost never made. However, mitigation strategies are identified and greatly increase the cost of the project. (FDOT 2002)

A.4.2.3 Streamlined Planning Process

In order to solve the above problems, and create transportation decision and environmental planning linkages as well as promote agency involvement, the ETDM process added two screening events and an efficient permitting process to the original transportation planning process as shown in the Figure 22:

1. Planning Screen: This initial screening occurs before the proposed projects are included in the LRTP. It provides early agency involvement by enabling members of the Environmental Technical Advisory Team (ETAT) to review the project Purpose and Need Statements and comment on the environmental and social impacts of the projects on the community. The Environmental Screening Tool (EST) is used to evaluate and document the direct, secondary, and cumulative impacts of proposed projects, which allow planners to change project concepts to avoid or minimize negative effects, identify mitigation alternatives, and improve project cost estimates.
2. Program Screen: The second screening happens before projects are funded in the FDOT 5-Year Work Program and initials the NEPA process for federally funded projects or the State Environmental Impact Report for state-funded projects. ETAT members provide agency scoping requirements to facilitate compliance with NEPA and other pertinent laws that are involved during the NEPA process. In case potential dispute issues exist, FDOT may initiate the Dispute Resolution Process before the project is programmed into the FDOT 5-Year Work Program.
3. Permit Coordination: During the project development phase, ETAT members will cooperate with FDOT's project managers and coordinate within their agency to issue construction permits simultaneously with the NEPA document process. (FDOT 2011)

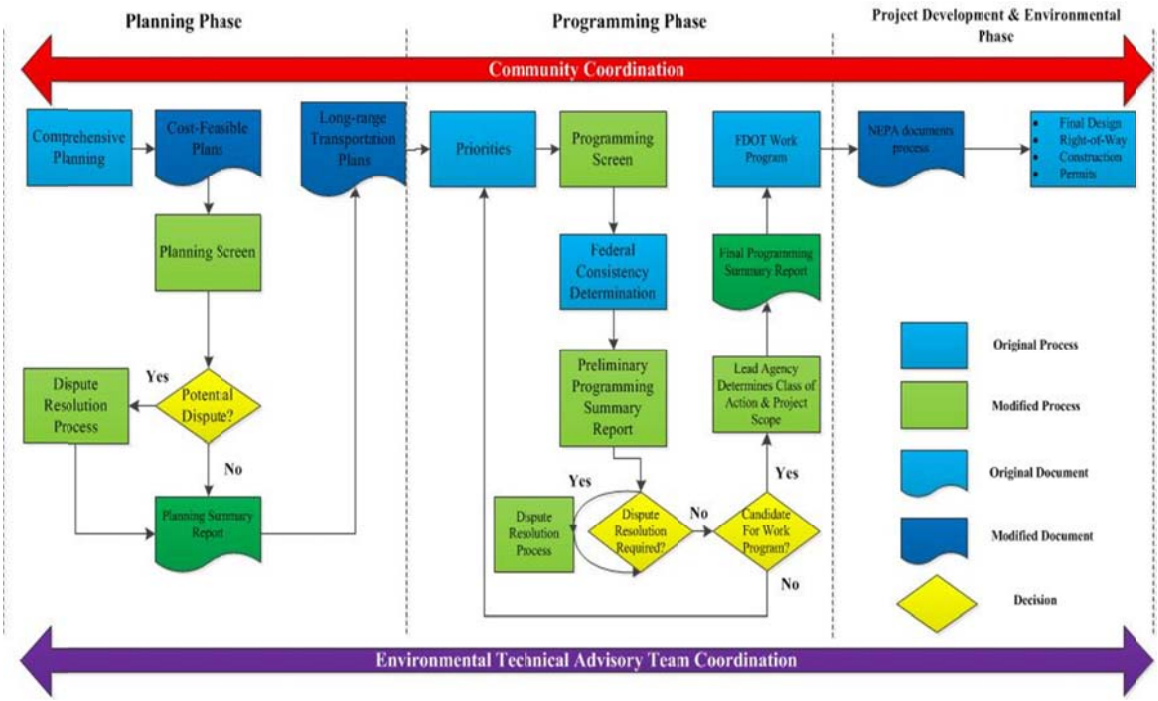

Figure 22. ETDM process flow chart.

A.4.2.4 Main Elements and Features of the Streamlined Process

The following elements and features characterize the streamlined process:

1. Legal Framework (USDOT and FHWA 2007b): 24 federal, state, and regional agencies participated in the development of the ETDM process and signed a memorandum of understanding (MOU). The MOU outlined how the ETDM process involves agencies and ensures continuous agency participation. In addition to the MOU, participating agencies are responsible for signing three additional agreements with FDOT and FHWA: the Master Agreement, Agency Operating Agreement, and Funding Agreement. The Master Agreement defines the integrated processes, and establishes the framework of an agency's participation. The Agency Operating Agreement addresses an agency's specific statutory and regulatory responsibilities and authorities in the integrated processes. The Funding Agreement defines how the funding is to be used for supporting the streamlined processes. These three agreements, together with MOU, commit the participating agencies to continued development and implementation of the ETDM process.

2. Teamwork and Coordination (FDOT 2006): To facilitate decision-making in the planning, programming, and project development phases of the ETDM process, ETDM coordinator, Community Liaison Coordinator, and Environmental Technical Advisory Team (ETAT) are established to ensure the coordination and communication among federal, state and Resource Agencies. An ETDM coordinator is responsible for implementing the ETDM process in a timely manner. An ETDM coordinator is designated to each FDOT district, the Turnpike district, and MPO. Each FDOT district and MPO shall also have a Community Liaison Coordinator to conduct effective public involvement and assess potential sociocultural effects for major transportation improvement projects. For each FDOT district, an ETAT is established and is composed of representatives from the 24 planning, regulatory, and source agencies. Each ETAT member is in charge of coordinating the team's actions to satisfy their agency's responsibility.

3. Environmental Screening Tool (EST; TRB 2011b): EST is an Internet-based GIS application that provides information on planned projects and surrounding environment. It is integrated with tools to examine potential project effects on natural, cultural, and community resources. EST is open to both public and ETAT. It provides standardized GIS analyses, reports of ETAT comments, and read-only information to the public. Figure 23 shows a snapshot of the EST (FDOT 2006).
4. Performance Measurement System: In order to monitor the time needed to complete document review, turnaround, and processing, a performance measurement system agreed by all the participating parties was developed. This system includes three performance goals and corresponding measures. The three goals are improving interagency coordination and dispute resolution, which has eight measures; integrating ETDM into project delivery, which has 15 measures; and developing environmental stewardship through protection of environmental resources, which has six measures. In order to measure the agency's performance on the above goals, data are collected from ETDM screens and summary report, project schedule (environmental document timeline), as well as communication log and survey. Among all the measures, there are 15 measures with three different indicators showing the different performance levels:
    - Green: achieves expectation
    - Yellow: needs improvement
    - Red: below expectation (FDOT 2005)

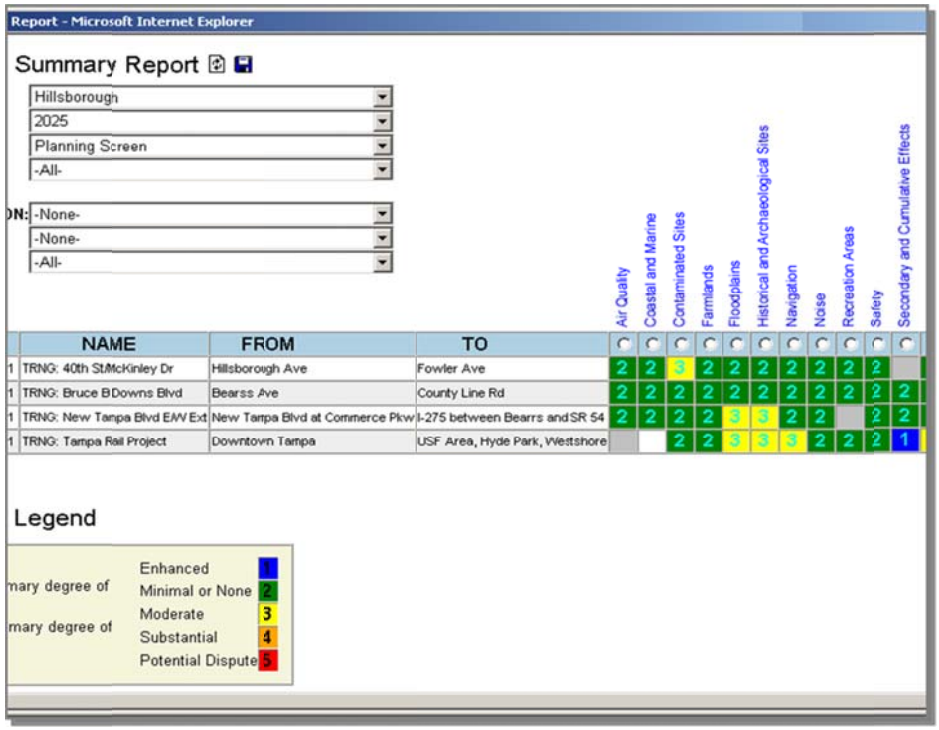

Figure 23. Screen capture of the EST Web-Based tool.

A.4.3 INDIANA: STREAMLINED EIS PROCEDURE

Originally, in the Indiana Department of Transportation (INDOT), the NEPA process was separated from the transportation planning process and was initiated only in the early stages of project development. As a result, many controversial alternatives that were thought to have been eliminated during state transportation planning studies were being reevaluated during subsequent NEPA studies. This led to duplication of effort and waste of time, resources, and taxpayers' money.

In 2001, INDOT adopted a streamlined procedure for planning and environmental analysis to eliminate the duplication of activities between planning studies and subsequent environmental analysis carried out under the NEPA by combining them into one study. To make a brief summary, the Streamlined EIS Procedure is to conduct planning/Corridor Study in the context of NEPA. The word "corridor" in this context means an entire travel shed or subarea where multiple transportation facilities are experiencing congestion, safety or other problems. The streamlined EIS procedures are initiated in one of two cases:

Option 1. Planning in the Context of EIS: If after reaching clear consensus on the project's design concept and scope or the need for improvements, INDOT and Metropolitan Planning Organizations (MPO) agree to fund the proposed actions; the project will be programmed into INDOT Scheduling Production Management System and MPO 20-year Transportation Plan, and proposed improvement actions will be programmed into the MPO Transportation Improvement Program/Indiana STIP. In this case, if INDOT anticipates that a project has significant environmental impact, Option1 is triggered. Figure 24 shows the flow diagram of the planning procedure in the context of EIS (INDOT and FHWA 2007).

Option 2. Planning in the Context of EA/Corridor Study: For other proposed projects, the need and the design concept and scope are less clear and well-defined, or it may be unclear whether an agreed-upon design concept and scope will require an EIS or other type of NEPA document. Figure 25 shows the flow diagram of the planning procedure in the context of EA/Corridor Study (INDOT and FHWA 2007).

Despite the success in linking NEPA and transportation planning studies, INDOT has decided to move forward to incorporate the use of Community Advisory Committees (CACs). A CAC consists of stakeholders from communities in which a project is located. FHWA and INDOT are also implementing an Indiana Context Sensitive Design Policy and Procedure within the streamlined EIS process.

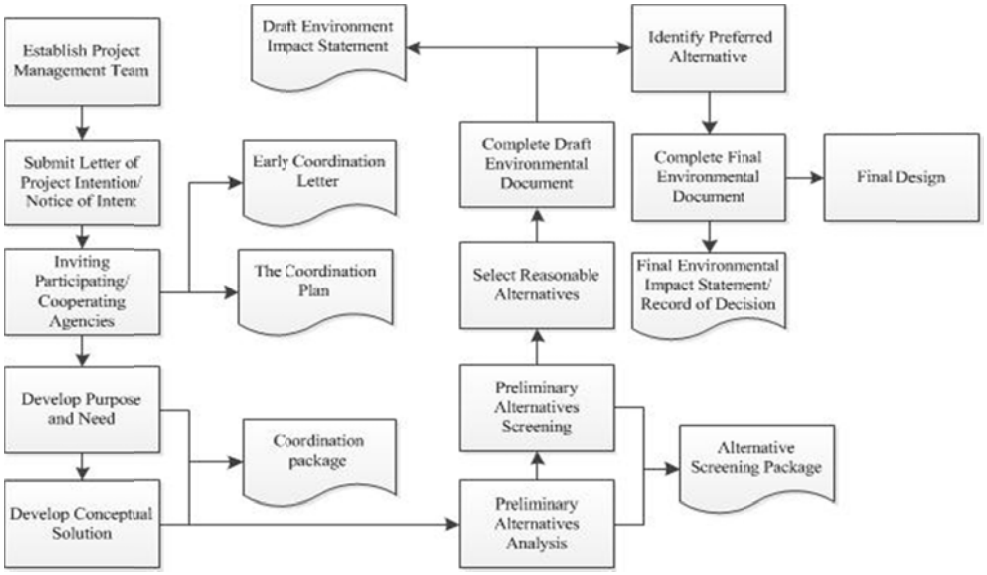

Figure 24. Planning in context of EIS flow chart.

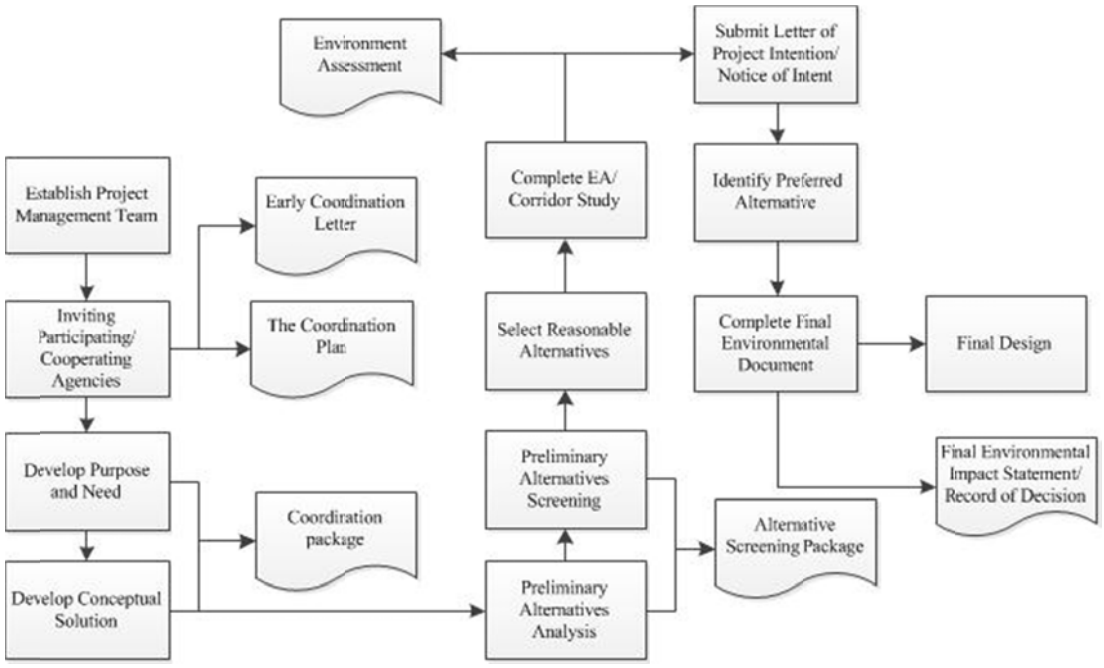

Figure 25. Planning in context of EA/Corridor Study Flow Chart.

A.4.3.1 Agencies and Organizations Involved

The following agencies and organization were involved in developing the streamlined EIS procedure, with INDOT assuming strong leadership roles in working with Resource Agencies and arranging meetings:

- Federal Highway Administration (FHWA)
- Federal Transit Administration (FTA)

- U.S. Army Corps of Engineers (U.S. ACE)
- U.S. Environmental Protection Agency (U.S. EPA)
- U.S. Fish and Wildlife Service (U.S. FWS)
- U.S. Coast Guard (U.S. CG)
- National Park Service (NPS)
- National Resources Conservation Service (NRCS)
- Indiana Department of National Resources (IDNR)
- IDNR State Historic Preservation Officer (SHPO)
- Indiana Department of the Environment Management (IDEM)
- Transit Agencies

A.4.3.2 Streamlined EIS Process

INDOT has proposed the following streamlined planning process, regardless of whether the proposed action is planned in the context of EIS or in the context of EA/Corridor Study:

1. Establish Project Management Team (PMT): According to the SAFETEA-LU, at the beginning of each project, a PMT will be assembled to provide guidance to the project consultant at each step of the EIS procedure. The PMT is composed of representatives from INDOT, Indiana Division of FHWA, Region 5 FTA, and the MPO.
2. Submitting Letter of Project Intention (LOPI)/Notice of Intent: Once the PMT has been established, a notice to proceed with the environmental study is issued to the consultant. The notice can be an LOPI issued to FHWA by INDOT, stating the type of work, termini, length, general location of the proposed project, and a timeline about the environmental review process. An LOPI should also include a list of any other federal approvals anticipated to be necessary for the proposed project. Instead, the notice can be a Notice of Intent as long as it includes the information required by Section 6002 of SAFETEA-LU (USGPO 2007).
3. Inviting Participating/Cooperating Agencies: After the time of the LOPI, the lead agencies of the project (typically FHWA and INDOT) should send invitations to potential participating/cooperating agencies. The invitations can be hard copy or email invitations, and should be easy to track to ensure delivery. The lead agency should keep a copy of the invitations and their responses in the project file. As the project advances, lead agencies may identify additional entities and invite them to serve as participating/cooperating agencies.
4. Coordination Plan: At the early stage of the environmental review process, the lead agencies should develop a coordination plan that includes a project schedule. The coordination plan must be shared with all participating agencies, INDOT, the project sponsor, and the general public. As additional participating agencies are identified or the complexity of issues becomes clearer, lead agencies can make corresponding changes.
5. Early Coordination Letter: While inviting participating agencies, lead agencies can include an Early Coordination Letter to encourage input from Resource Agencies. The Early Coordination Letter will include a map of the study area, and a description of the proposed action.

6. Develop Purpose and Need: It is the lead agencies' responsibility to develop the project's Purpose and Need if the project requires an EIS. Before the Purpose and Need is incorporated into the NEPA document, the lead agencies should encourage the involvement of participating agencies and the public, and consider their input. In this stage, the consultant needs to collect a wide variety of data on a project by project basis. It might include project background, design concept and scope of the project, existing and future travel demands, and traffic safety data, as well other environmental and economic information related to the NEPA process.
7. Develop Conceptual Solutions: After the lead agencies finish the Purpose and Need, the consultant should begin preparing the Conceptual Solutions by identifying and analyzing the needs to be addressed in the Purpose and Need Statement, and then compile the Purpose and Need and Conceptual Solutions Summary as well as relevant technical documents as a Coordination Package for the PMT to review. Once the PMT is satisfied with the Coordination Package, the consultant will first conduct a public information meeting on the Coordination Package to receive public comment, and then another meeting with Resource Agencies will be held for further review and comment. The consultant will collect feedback from the two meetings, and together with the PMT, make revisions to the Coordination Package accordingly.
8. Preliminary Alternatives Analysis: In this step, the PMT gathers a wide range of feasible alternatives from various public/agency/community advisory committee contacts, and conduct a preliminary analysis to exclude unreasonable alternatives that cannot meet the basic Purpose and Need, or have a fundamental engineering, safety, or environmental "fatal flaw." For further analysis of the Preliminary Alternatives, a variety of environmental field studies are performed to determine their environmental impact.
9. Preliminary Alternatives Screening: In this step, the practicality of the various conceptual solutions in terms of cost and overall effectiveness and environment impact are determined. Accordingly, the consultant conducts the "Preliminary Alternative Screening, including the revised Purpose and Need, Conceptual Solutions, a summary of Preliminary Alternatives Screening, as well as proposed methodology for the analysis of reasonable alternatives.
10. Select Reasonable Alternative: Following the Preliminary Alternative Screening, the PMT holds public information meeting on the Preliminary Alternatives Screening Package to receive public comment, and then another meeting with Resource Agencies is held for further review and comment. Based on the feedback from both the public and Resource Agencies, FHWA and INDOT determine which preliminary alternatives will be chosen for further study and the scope of the additional study to be undertaken.
11. Prepare Draft Environmental Document: In this step, the leading agencies prepare a draft environmental impact statement (DEIS), which includes a detailed assessment of the project's impacts on the communities, natural, socioeconomic and cultural resources, and the corresponding measures to avoid, minimize, or mitigate the environmental impacts. The DEIS should also summarize and address the primary issues raised by participating agencies and the public in the document. Once the preparation of preliminary DEIS is completed, it gets presented to the PMT and any cooperating agencies for comments. The consultant keeps refining the DEIS in response to comments received from the PMT and other agencies until FHWA is satisfied that all the comments have been appropriately addressed. Once FHWA has approved the DEIS, the formal public hearing is scheduled to receive comments from broader audiences, and corresponding revision based on the comments are prepared.

12. Identify Preferred Alternatives: According to the Council on Environmental Quality (CEQ) regulations, a preferred alternative must be identified in the Final Environmental Impact Statement (FEIS). However, INDOT and FHWA made an agreement to identify a preferred alternative in the DEIS by all means. After analyzing and screening all feasible alternatives, and reviewing all the public and agency comments on DEIS, INDOT can recognize the preferred alternative by issuing a separate letter or other decision document to other lead agencies and get their approval. Once the identification of the preferred alternative is officially approved, the "subsequent NEPA document should disclose that preference" (INDOT and FHWA 2007).
13. Complete Final Environmental Documents: All essential public and agency comments on the DEIS are addressed in the FEIS. Once the preliminary FEIS is prepared, it is distributed to FHWA for review. After all comments from FHWA have been sufficiently resolved, the FEIS is forwarded to FHWA again in a final form for signature. After the ROD is issued, INDOT informs the general public in the project area and the participating agencies of the ROD by publishing a public notice. All participating agencies will receive a copy of the ROD from FHWA, and the NEPA decision-making process gets officially ended.
14. Final Design: The final design of the projects begins once FHWA has approved the ROD. To further minimize the negative environmental impacts, INDOT continues to perfect the design of selected actions and mitigation measures. During the final design, the Production Management Division works as a supervisor to ensure that each of the environmental commitments has been implemented or considered, using the Commitments Summary form. If the mitigation items are attached with firm commitments for implementation during the NEPA process, they should be integrated into the project plans and specifications. If the mitigation items are attached with a commitment for further evaluation, they should be thoroughly evaluated to determine the feasibility of their implementation (INDOT and FHWA 2007).

A.4.3.3 Main Elements and Features of the Streamlined Process

The following elements and features characterize the streamlined process:

1. Project Coordination Team: At the beginning of each project, a project coordination team is assembled to provide guidance on the NEPA process for the project consultant. The project coordination team consists of a representative from INDOT, Indiana Division of FHWA, Region 5 FTA, and the MPO, when the project study area is in an MPO area. The main purpose of the project coordination team is to improve coordination among planning agencies (INDOT and MPO), agencies with primary responsibility for the NEPA process (FHWA and INDOT), and Resource Agencies—without interference on their existing roles and responsibilities (INDOT and FHWA 2007).
2. Agency Coordination: Besides the project coordination team, the streamlined procedure itself provided many opportunities for interagency coordination. In the early stage of the procedure, the project coordination team will invite resource and planning agencies to participate in the study, and send an Early Coordination Letter to encourage input from them. As the procedure moves on, it requires formal comment from agencies at crucial milestones including Purpose and Need development, preliminary alternatives analysis and screening, and preferred alternatives selection. At each crucial milestone, the consultant will prepare an Agency Review Package and forward it to Resource Agencies for a 60-day review. An interagency review meeting is held in the middle of the review period (USDOT and FHWA 2007c).

3. Conflict Resolution Process: In case there are issues that remain unresolved after the interagency coordination meetings, the streamlined procedure contains a conflict resolution process to address the problem. Agencies will try to identify any conflict at the earliest possible stage before it become decisive. If a conflict has been identified, a separate session will be held before or after the interagency review meeting to discuss and resolve the issue among staff from FHWA, INDOT, and the concerned agency. If the issue remains a problem after the first staff-level meeting, a second meeting with first-level supervisors will be held. After the second meeting, if there are still issues that remain unsolved, a meeting of executives will be scheduled by FHWA. The executives attending the meeting include the FHWA Division Administrator, the INDOT Deputy Commissioner of the Office of Planning and Multi-Modal Transportation, and their peers (USDOT and FHWA 2007c).

A.4.4 Maine: Integrated Transportation Decision-Making Process

Initiated by the Maine Department of Transportation (MaineDOT), Maine's Integrated Transportation Decision Making (ITD) process is aimed at integrating environmental concerns into the "entire transportation process, from planning to maintenance" (USDOT and FHWA 2002). The overall goals of ITD are to:

- "Establish an environmental culture at MaineDOT through management support, program accountability, and institutionalization of an environmental ethic.
- "Include human and natural environmental considerations in transportation decision-making by MaineDOT and its partners.
- "Adopt clear and consistent environmental policies and operating guidance.
- "Expand the use of collaboration and consensus building, both internally and externally, through stakeholder participation.
- "Integrate existing state and Federal project review processes to eliminate duplication of effort." (USDOT and FHWA 2002)

With the ITD process, the MaineDOT managed to finish the EIS for the Augusta River Crossing project in 41 months given the national median for completing an EIS for large projects is 51 months (USDOT and FHWA 2007d).

A.4.4.1 Agencies and Organizations Involved

Led by MaineDOT, the following agencies and organizations have played important roles in developing the ITD process:

- Federal Highway Administration (FHWA) Maine Division
- U.S. Army Corps of Engineers (U.S. ACE)
- U.S. Environmental Protection Agency (U.S. EPA)
- U.S. Fish and Wildlife Service (U.S. FWS)
- National Marine Fisheries Service
- Maine Department of Environmental Protection
- Maine Department of Inland Fish and Wildlife
- Maine Department of Marine Resources
- Sea Run Salmon Commission

- Maine Historic Preservation Commission
- Maine Land Use Regulation Commission

A.4.4.2 Streamlined Process

Based on the Mid-Atlantic Transportation and Environment Streamlining Framework, MaineDOT has developed a ten-step process that integrates the requirements of NEPA, Maine's Sensible Transportation Policy Act, and the U.S. Army Corps of Engineers' Highway Methodology for Section 404 (USDOT and FHWA 2002). The following ten-step process is designed for projects that require an EIS or EA:

1. Transportation Planning Process: Because the state DOT's transportation plan lays the foundation of a fiscally constrained, efficient, and integrated transportation system, the linkage of transportation planning and project development occurs in this step. The linkage is achieved through early coordination and information sharing among regulatory and resource agencies and MPOs. The state DOTs shall provide opportunities for regulatory and resource agencies and MPOs to participate in the development of planning level Purpose and Need for transportation improvement. In this way, the transportation need and potential impacts to the community and the environment are balanced in early in the decision-making process.
2. Scoping: The purpose of this step is to provide transition from transportation planning to project development. In this step, MPOs and resource agencies will continue their involvement to assist in identifying the range and the complexity of issues to be addressed in the project. In this step, the responsibilities of different participating agencies, public involvement opportunities, as well as environmental assessment methodologies are identified through interagency meetings and field inspections. This process will provide a smooth transition for those agencies involved in the project but not participants of state DOT's planning process.
3. Purpose and Need: In this step, the project team will refine the planning level Purpose and Need developed from state DOT's planning process with both input from participating agencies and the general public. The key element of this step is to achieve consensus among the participating agencies on the project-level Purpose and Need, which will significantly reduce the redundant work and lower the possibility of conflicts in the future steps.
4. Development of Alternatives: This step requires the development of a full range of reasonable alternatives based on the project Purpose and Need identified in the last step. MPOs' involvement is crucial to the success of this step as they can provide state DOTs and other participating agencies with information about community interests and the project region.
5. Detailed Alternatives Analysis and Draft NEPA Document: Comprehensive evaluation of the impact of the alternatives will be conducted in this step. The evaluation will be based on the "alternatives' ability to address the project Purpose and Need as well as the potential impacts to the environmental, economic, and community resources." The evaluation will be combined with other detailed studies so that the draft NEPA document can be prepared and circulated in this step to receive comments from participating agencies.
6. Identification of Preferred Alternative and Conceptual Mitigation Plan: The primary mission of this step is to identify preferred alternative based on the evaluation in the previous step and refine the conceptual mitigation plan to ensure that "consensus is achieved among all agencies prior to the circulation of the Final NEPA document."

7. Final NEPA Document: Before the release of final NEPA document, the cooperating agencies will review and comment on the pre-final NEPA document to make sure “there are no objections to any changes to the NEPA document or to the preferred alternative.” This will help state DOT and FHWA resolve the outstanding concerns before the circulation of final NEPA document.
8. Finding of No Significant Impact/Record of Decision: The preferred alternative identified in the final NEPA document shall be include in a conforming transportation plan and a transportation improvement program before the ROD is signed by FHWA. The ROD will link the NEPA project development and project final design through the coordination of the commitments in the ROD.
9. Final Project Design, Minimization and Mitigation Coordination, and Permit Decision: The purpose of this step is to “ensure that any necessary changes to the project impacts are coordinated with the appropriate agencies” in a timely manner. To achieve this purpose, this step requires coordination between the state DOT and the regulatory and resources agencies after the final design of the project.
10. Project Implementation and Monitoring: As the final step of the whole process, its purpose is to “ensure that all project construction and mitigation activities are consistent with the decisions and commitments that were cooperatively made during project development.” This step requires that the state DOT works together with all transportation, resource, and regulatory agencies as well as construction engineers to monitor the construction activities and mitigation measures to ensure compliance with permit conditions and environmental regulations. (USDOT and FHWA 2007d; MATE Task Force 2000)

The above ten steps link the planning and project development through improved coordination, and early and concurrent involvement of all agencies in the NEPA decision-making process. However, the ten-step process only provides a concept for linking planning and NEPA processes; it does not work as a standard process since the linkages are handled in different ways based on the level of planning.

A.4.4.3 Main Elements and Features of the Streamlined Process

To accelerate project delivery and promote coordination, the following features have been identified along with the Maine’s ITD process:

1. Interagency Coordination: The ten-step process is designed to improve interagency coordination in two different ways. The first one is monthly interagency meetings. The U.S. Army Corps of Engineers, U.S. EPA, U.S. Fish and Wildlife Service, National Marine Fisheries, state EPA, Inland Fish and Wildlife, Marine Resource, Sea Run Salmon Commission, Historic Preservation Commission, and State Land Use Regulation Commission formed an interagency group to review studies and projects and meet every month. The second one is the stakeholder concurrence. A stakeholder concurrence occurs at the end of each step when a crucial milestone is achieved. Typically, each stakeholder concurrence point is incorporated in the monthly meeting and is documented in the meeting minutes. After a formal concurrence, participating agencies will only revisit a milestone if there is essential new information that requires reconsideration.
2. Re-Organization: Within the MaineDOT Bureau of Planning, an Environmental Coordination and Analysis unit was created. The Project Development and Design Unit was no longer in charge of preparing EIS and EA and the responsibility along with associated resources were moved to the Planning Unit.
3. Delegation of Responsibility of CEs: In May 2001, agreement with FHWA delegated to MaineDOT the authority and responsibility to approve eligible actions as Categorical

Exclusions (CEs). The agreement set forth three types of actions to be candidates for CEs, which do not require individual FHWA approval. Since then, MaineDOT's Bureau of Planning is administratively responsible for preparing and processing information on eligible actions, and assuring these actions comply with criteria established in the agreement. MaineDOT also archives its actions and sends the documents to FHWA for review from time to time.

4. Regional Transportation Advisory Committees: Pursuant to the Maine's Sensible Transportation Policy Act, MaineDOT created Regional Transportation Advisory Committees to allow for public participation and opportunity to comment on transportation planning decisions, capital investment decisions, project decisions, and compliance with the statewide transportation policy. (USDOT and FHWA 2007d)

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APPENDIX B CASE STUDY DATA

Table 29a. Case Study Data, Part 1

State	Project	Lead Agency	Class of Action	Competion Year	National Median at this Year	Compared with Natioanl Median	Draft EIS Rating	NEPA Process Length	The Number of Document Preparers	The Number of Major Alternatives Analyzed in the FEIS	The Number of Cooperating Agencies	The Number of Interagency Meetings	The Number of Public Meetings and Hearings	Estimated Cost in 2013 Dolalr	Estimated Cost of Preferred Alternatives (million $)	If Section 404 Permit is Required	If Section 4(f) Approval is Required	If Streamlined Process Applied
IL	Macomb Area Study	FHWA and IDOT	EIS	2004	4.58	-5.92	NA	10.50	41	5	4	13	3	200.75	148.4 (2000)	Yes	No	No
IN	I-69 Evansville to Indianapolis Project, Tier 1	FHWA and INDOT	EIS	2004	4.58	0.36	NA	4.22	49	6	0	26	16	2253.49	1780(2003)	Yes	Yes	No
CO	US Highway 160	FHWA and CDOT	EIS	2006	5	1.14	EC2	3.86	51	9	2	3	25	526.44	455.6 (2006)	Yes	Yes	No
FL	Indian Street Bridge PD&E Study	FHWA and FDOT	EIS	2006	5	-1.26	NA	6.26	50	10	4	8	24	144.90	125.4 (2006)	Yes	No	No
CO	I-25 Valley Highway Project	FHWA and CDOT	EIS	2007	5.92	0.88	EC2	5.04	27	4	4	126	11	362.55	294 (2004)	Yes	Yes	No
CO	US-36 Corridor	FHWA, FTA, CDOT, and RTD (Regional Transportation Disctrict)	EIS	2009	7	1.69	EC1	5.31	121	4	1	NA	20	1402.19	1296 (2008)	Yes	Yes	No
IL	Elgin O'Hare - West Bypass Study Tier 1	IDOT, FHWA	EIS	2010	5.92	3.29	LO	2.62	56	3	2	58	46	3246.55	2990(2009)	Yes	No	No
IL	Illinois Route 29 (FAP 318) Corridor Study	FHWA and IDOT	EIS	2010	5.92	-1.66	EC2	7.58	52	4	5	58	4	893.62	823 (2009)	Yes	No	No
ME	Aroostook County Transport Study, Tier 1	FHWA and MEDOT	EIS	2010	5.92	-4.47	EC2	10.38	24	8	4	8	5	37.87	35 (2008)	Yes	No	No
IL	Illinois 336 Corridor Project	FHWA and IDOT	EIS	2011	6.58	-1.75	EC2	8.34	29	4	0	49	16	794.16	644 (2004)	Yes	No	No

Table 29b. Case Study Data, Part 2

State	Project	Lead Agency	Class of Action	Competion Year	National Median at this Year	Compared with Natioanl Median	Draft EIS Rating	NEPA Process Length	The Number of Document Preparers	The Number of Major Alternatives Analyzed in the FEIS	The Number of Cooperating Agencies	The Number of Interagency Meetings	The Number of Public Meetings and Hearings	Estimated Cost in 2013 Dolalr	Estimated Cost of Preferred Alternatives (million $)	If Section 404 Permit is Required	If Section 4(f) Approval is Required	If Streamlined Process Applied
IL	Elgin O'Hare - West Bypass Tier 2	IDOT, FHWA, FAA, and Illinois State Toll Highway Authority	EIS	2012	NA	NA	EC2	1.51	65	3	2	47	32	3398.89	3350(2012)	Yes	No	No
IL	Prairie Parkway Study	FHWA and IDOT	EIS	2012	NA	NA	EC2	7.87	65	4	6	26	5	1020.01	907.901(2007)	Yes	Yes	No
ME	Aroostook County Transportation Study, Tier 2	FHWA and MEDOT	EIS	2013	NA	NA	NA	13.49	26	13	4	14	3	142.82	132 (2008)	Yes	No	No
ME	Augusta River Crossing Study	FHWA and MEDOT	EIS	2000	5	1.58	NA	3.42	24	6	NA	3	7	39.57	29.25 (2000)	Yes	No	Yes
IN	US-31 Improvement from Plymouth to South Bend	FHWA and INDOT	EIS	2006	5	0.80	EO2	4.20	57	5	0	32	7	446.87	374.65 (2005)	Yes	No	Yes
IN	I-69 Evansville to Indianapolis Project, Tier 2 Section 1	FHWA and INDOT	EIS	2007	5.92	2.29	LO	3.62	77	9	0	11	6	157.51	147.44 (2010)	Yes	No	Yes
FL	Interstate 395 (I-395) Development and Environment Study Project	FHWA	EIS	2010	5.92	0.33	EC2	5.58	22	5	0	5	89	534.14	500 (2010)	No	No	Yes
IN	I-69 Evansville to Indianapolis project, Tier 2 Section 3	FHWA and INDOT	EIS	2010	5.92	0.16	LO	5.75	69	6	0	58	30	127.13	119 (2010)	Yes	No	Yes
IN	I-69 Evansville to Indianapolis project, Tier 2 Section 2	FHWA and INDOT	EIS	2010	5.92	0.00	LO	5.92	101	4	0	33	37	451.88	423 (2010)	Yes	No	Yes
CO	North 1-25 Corridor Denver	FHWA and CDOT	EIS	2011	6.58	-1.42	EC2	8.00	79	3	4	62	33	2255.52	2178 (2011)	Yes	Yes	Yes
IN	I-69 Evansville to Indianapolis project ,Tier 2 Section 4	FHWA and INDOT	EIS	2011	6.58	-0.78	EC2	7.37	81	6	0	78	74	240.90	225.5 (2010)	Yes	No	Yes

APPENDIX C OTHER FACTORS INFLUENCING THE NEPA PROCESSING TIME

In 2000, the FHWA Headquarters Office of NEPA Facilitation conducted a nationwide survey on projects for which an environmental impact statement (EIS) had been in preparation of 5 years or longer (FHWA 2000). One of the questions of the survey asked about the reasons for why the NEPA process was completed in 5 or more years. According to the survey results (FHWA 2000), 32.5 % of the respondents chose the lack of funding or low priority as the reason, 16% of the respondents chose local controversy as the reason, and 13% of the respondents chose complex project as the reason. In addition to these main reasons, other identified reasons included Resource Agencies review, change in project scope, wetland and hazardous materials and items issues, etc. The results of the survey are summarized in Figure 26.

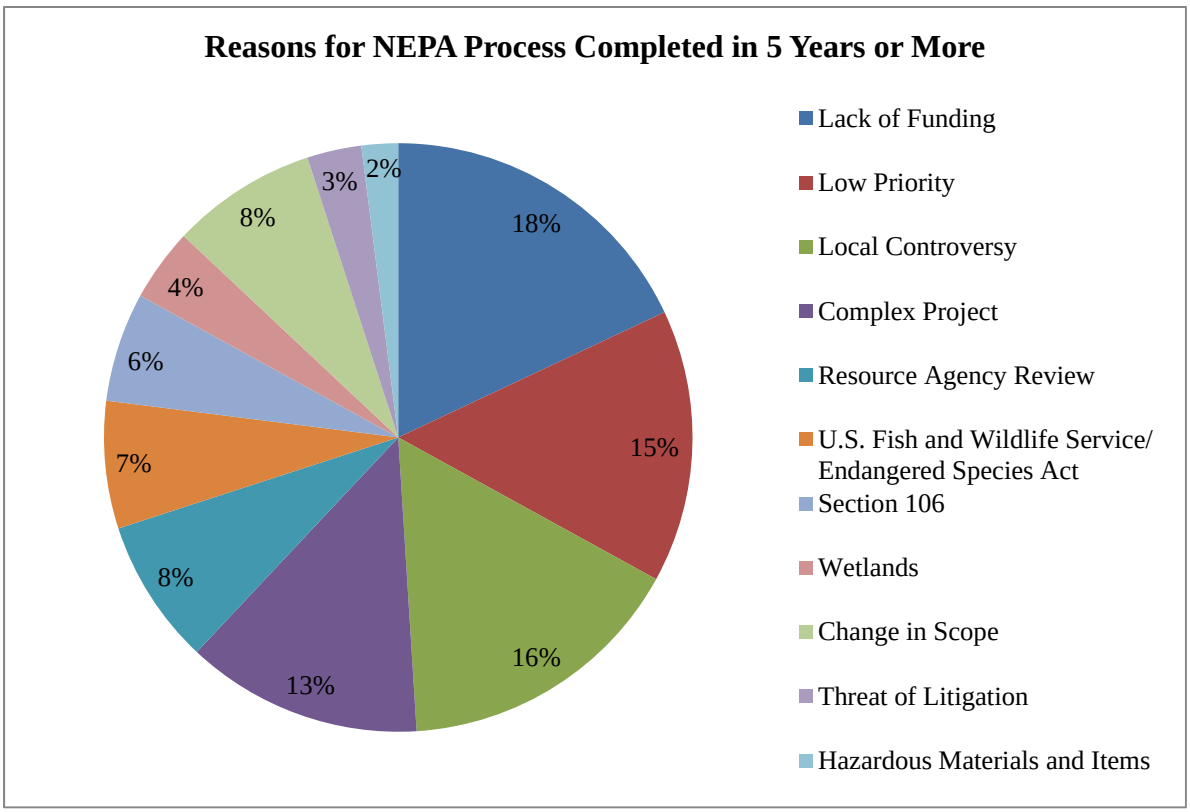


Figure 26. Reasons for NEPA process completed in 5 years or more (FHWA 2000).

Later, FHWA conducted a similar survey on two sets of projects completed in fiscal year 2002 (FHWA 2002): one set of projects managed to complete its NEPA process in 3 years or less, the other set of projects competed its NEPA process in 5 years or more. The reasons for why the NEPA process of the projects was completed within 3 years or over 5 years were identified during the survey. In terms of the reasons for completing the NEPA process within 3 years, 43% of the respondents chose early agency coordination as the main reason. Other reasons included supplemental as a result of a court ruling, established project milestones, early public involvement, and political pressure. The results are summarized in Figure 27.

As for the reasons for completing the NEPA process in 5 years or longer, 24% of respondents chose low priority by the state as the main reason, and 16% of the respondents chose the complex nature of the project. Other reasons included Section 106 consultation, change in project scope, poor consultant work, etc. The results are summarized in Figure 28.

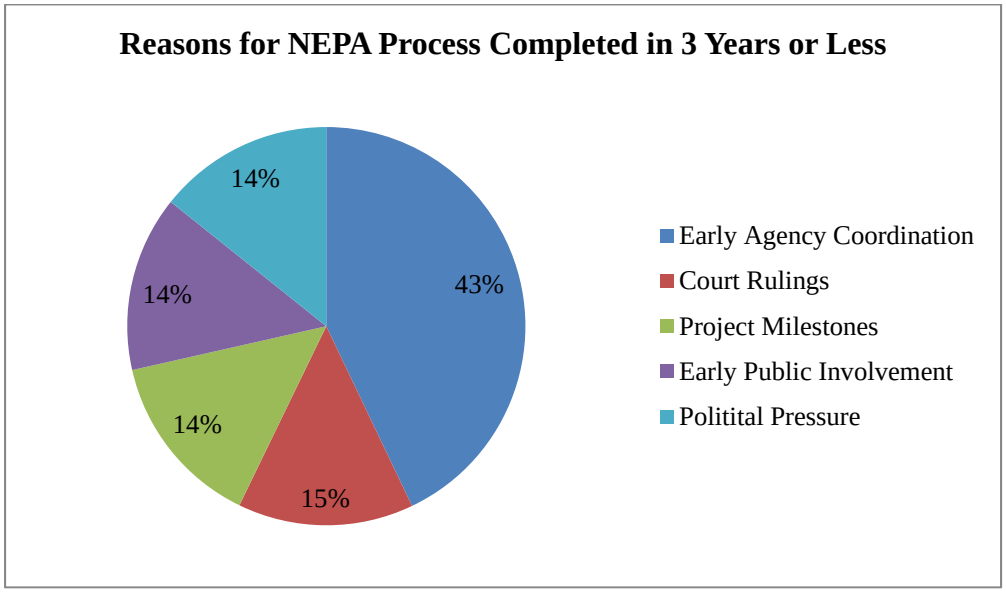


Figure 27. Reasons for NEPA process completed in 3 years or less (FHWA 2002).

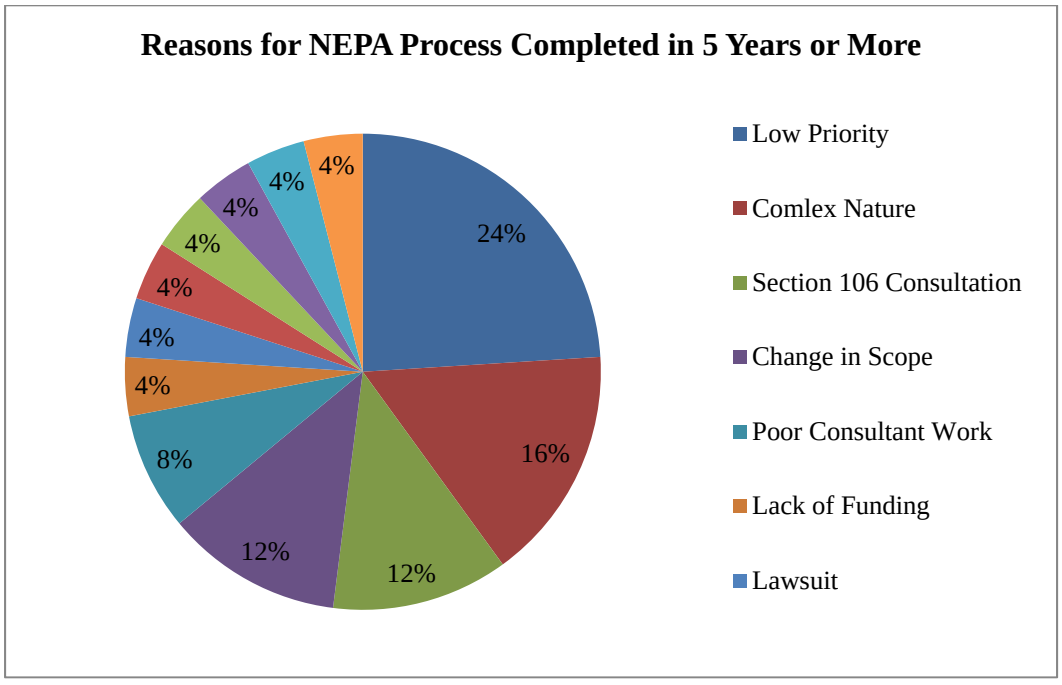


Figure 28. Reasons for NEPA process completed in 5 years or more (FHWA 2002).

APPENDIX D QUESTIONNAIRES FOR EVALUATION OF POTENTIAL INTEGRATION PRACTICES

D.1 QUESTIONAIRE FOR RESPONDENTS FROM IDOT DISTRICTS

1. Do you currently have access to an environmental screening tool?
   - No
   - Yes, Detailed Impact Review Tool (DIRT)
   - Yes, GIS-based tool >> please specify ……..
   - Yes, Other >> please specify ……

2. Do you currently conduct environmental screening of projects during the Programming/Planning Phase (prior to Phase I Project Development)?
   - Yes
   - No >> if no, go to Question 7

3. If yes (to Q.2), do you use an environmental screening tool?
   - No
   - Yes, Detailed Impact Review Tool (DIRT)
   - Yes, GIS-based tool >> please specify ……..
   - Yes, Other >> please specify ……

4. If yes (to Q.2), when do you conduct this environmental screening of projects?
   - Screening a candidate project PRIOR to the prioritization and selection of projects for inclusion in the multi-year program (MYP)
   - Screening priority projects once they have been selected for inclusion in the multi-year program (MYP), but PRIOR to the inclusion in the multi-year program (MYP)
   - Screening priority projects once they have been included in the multi-year program (MYP)
   - Other >> please specify ……

5. If yes (to Q.2), for which types of projects do you conduct this environmental screening of projects?
   - 'System expansion' projects
   - 'Congestion mitigation' projects
   - 'Bridge maintenance' projects
   - 'System maintenance' projects
   - Other >> please specify ……

6. If yes (to Q.2), how often do you conduct this environmental screening of projects?
   - For every project
   - Sometimes
   - Occasionally
   - Other >> please specify ……

7. If no (to Q.2), what are the reasons for not conducting such environmental screening?
   - ……..

8. Do you agree that conducting environmental screening of projects during the Programming Phase (prior to Phase I Project Development) may enhance efficiency of project development in terms of time and cost?

- Scale of 1 to 6 (Strongly Agree to Strongly Disagree) + No opinion

9. If yes (to Q.8), when would it be the most efficient time to conduct the first environmental screening of a project?
   - Screening a candidate project, at the District level, PRIOR to the prioritization and selection of projects for inclusion in the multi-year program (MYP)
   - Screening priority projects, at the District level, once they have been selected for inclusion in the multi-year program (MYP), but PRIOR to the inclusion in the multi-year program (MYP)
   - Screening priority projects, at the District level, once they have been included in the multi-year program (MYP)
   - Other >> please specify ……..
10. If yes (to Q.8), what would be the most suitable tool to use in conducting the environmental screening?
    - Detailed Impact Review Tool (DIRT)
    - GIS-based tool >> please specify ……..
    - Other >> please specify ……..
11. If yes (to Q.8), do you agree that establishing and using standardized environmental criteria and metrics in environmentally assessing projects may support the execution of environmental screening in a consistent manner?
    - Scale of 1 to 6 (Strongly Agree to Strongly Disagree) + No opinion
12. If yes (to Q.8), what would be the most effective way(s) to disseminate the results of this environmental screening to blend into the NEPA process?
    - Informing Phase I consultants, IDOT in-house staff, and Resource Agencies involved in the NEPA process
    - Uploading and storing the data in a Common Database
    - Other >> please specify ……..
13. Do you agree that requiring Corridor Studies and Feasibility Studies to be conducted in compliance with NEPA requirements could help reduce both the time and cost of the project development process, since data from these studies could be incorporated into successive NEPA studies/documents?
    - Scale of 1 to 6 (Strongly Agree to Strongly Disagree) + No opinion
14. If yes (to Q.13), do you agree that it would be beneficial to provide Phase I consultants involved in preparing Corridor Studies and/or Feasibility Studies with environmental screening information (e.g., information from the Detailed Impact Review Tool (DIRT))?
    - Scale of 1 to 6 (Strongly Agree to Strongly Disagree) + No opinion
15. Do you agree that early and continuous involvement and coordination with IDOT/Districts, MPOs, Resource Agencies, and consultants may support the streamlining of transportation planning and environmental/NEPA processes, and in turn may enhance efficiency of project development in terms of time and cost?
    - Scale of 1 to 6 (Strongly Agree to Strongly Disagree) + No opinion
16. If yes (to Q.15), do you consider the following ways as potentially effective means for achieving such early and continuous involvement and coordination:
    - Ensuring early coordination between Districts and MPOs while preparing the Long-Range Transportation Plans (LRTPs) by MPOs

    - Scale of 1 to 6 (Strongly Agree to Strongly Disagree) + No opinion
- Engaging Resource Agencies in environmentally screening candidate projects during the Planning Phase and soliciting their feedback on potential environmental issues during the preparation of the Long-Range Transportation Plans (LRTPs) by MPOs
- Engaging Resource Agencies in environmentally screening candidate projects during the Programming Phase and soliciting their feedback on potential environmental issues during the preparation of the multi-year program (MYP)
- Establishing and using one Common Database for collecting, storing, updating, and accessing project data and environmental data, where data/feedback is provided and accessed by IDOT/Districts, MPOs, Resource Agencies, and consultants
- Developing Memorandums of Understanding (MOUs) or Programmatic Agreements (PAs) among agencies for supporting early and continuous involvement and coordination
- Establishing interagency work groups, advisory groups, and/or committees for supporting early and continuous involvement and coordination
- Providing agencies with a common understanding of one another's roles and responsibilities (e.g., through webinars)
- Designating a coordinator at every District to be responsible for the implementation of the streamlined NEPA/planning process and for interagency coordination
- Designating a coordinator at every MPO to be responsible for the implementation of the streamlined NEPA/planning process and for interagency coordination
- Providing dedicated staff at Resource Agencies for cooperating and coordinating with IDOT/Districts and MPOs

D.2 QUESTIONNAIRE FOR RESPONDENTS FROM MPOS

1. Do you currently have access to an environmental screening tool?
    - No
    - Yes, GIS-based tool >> please specify ……..
    - Yes, Other >> please specify …… …….

2. What are the planning studies that you conduct, and what are the corresponding documents that are produced to document such studies?
    - …….

3. When conducting this planning study, do you take environmental considerations into account?
    - Yes
    - No

4. If no (to Q.3), what are the reasons for not taking environmental considerations into account?
    - …….

5. Do you currently conduct environmental screening of projects during the Planning Phase, when developing the MPO's Long-Range Transportation Plan (LRTP)?
    - Yes
    - No >>> if no, go to Question 10
6. If yes (to Q.5), do you use an environmental screening tool?
    - No
    - Yes, GIS-based tool >> please specify ……..
    - Yes, Other >> please specify …….

7. If yes (to Q.5), when do you conduct this environmental screening of projects?
   - Screening a candidate project PRIOR to the prioritization and selection of projects for inclusion in the MPO's Long-Range Transportation Plan (LRTP)?
   - Screening priority projects once they have been selected for inclusion in the MPO's Long-Range Transportation Plan (LRTP), but PRIOR to the inclusion in the LRTP
   - Screening priority projects once they have been included in the MPO's Long-Range Transportation Plan (LRTP)
   - Other >> please specify ……

8. If yes (to Q.5), for which types of projects do you conduct this environmental screening of projects?
   - 'System expansion' projects
   - 'Congestion mitigation' projects
   - 'Bridge maintenance' projects
   - 'System maintenance' projects
   - Other >> please specify ……

9. If yes (to Q.5), how often do you conduct this environmental screening of projects?
   - For every project
   - Sometimes
   - Occasionally
   - Other >> please specify ……

10. If no (to Q.5), what are the reasons for not conducting such environmental screening?
    - …….

11. Do you agree that conducting environmental screening of projects during the Planning Phase (during the preparation of the MPO's Long-Range Transportation Plan (LRTP)) may enhance efficiency of project development in terms of time and cost?
    - Scale of 1 to 6 (Strongly Agree to Strongly Disagree) + No opinion

12. If yes (to Q.11), when would it be the most efficient time to conduct the first environmental screening of a project?
    - Screening a candidate project PRIOR to the prioritization and selection of projects for inclusion in the MPO's Long-Range Transportation Plan (LRTP)
    - Screening priority projects once they have been selected for inclusion in the MPO's Long-Range Transportation Plan (LRTP), but PRIOR to the inclusion in the LRTP
    - Screening priority projects once they have been included in the MPO's Long-Range Transportation Plan (LRTP)
    - Other >> please specify ……

13. If yes (to Q.11), what would be the most suitable tool to use in conducting the environmental screening?
    - GIS-based tool >> please specify ……..
    - Other >> please specify ……

14. If yes (to Q.11), do you agree that establishing and using standardized environmental criteria and metrics in environmentally assessing projects may support the execution of environmental screening in a consistent manner?
    - Scale of 1 to 6 (Strongly Agree to Strongly Disagree) + No opinion

15. If yes (to Q.11), what would be the most effective way to disseminate the results of this environmental screening to blend into the NEPA process?
    - Informing IDOT/District staff, Phase I consultants, and Resource Agencies involved in the NEPA process
    - Uploading and storing the information in a Common Database
    - Other >> please specify ……

16. Do you agree that early and continuous involvement and coordination with IDOT/Districts, MPOs, Resource Agencies, and consultants may support the streamlining of transportation planning and environmental/NEPA processes, and in turn may enhance efficiency of project development in terms of time and cost?
    - Scale of 1 to 6 (Strongly Agree to Strongly Disagree) + No opinion

17. If yes (to Q.16), do you consider the following ways as potentially effective means for achieving such early and continuous involvement and coordination:
    - Ensuring early coordination between Districts and MPOs while preparing the Long-Range Transportation Plans (LRTPs) by MPOs
        - Scale of 1 to 6 (Strongly Agree to Strongly Disagree) + No opinion
    - Engaging Resource Agencies in environmentally screening candidate projects during the Planning Phase and soliciting their feedback on potential environmental issues during the preparation of the Long-Range Transportation Plans (LRTPs) by MPOs
    - Engaging Resource Agencies in environmentally screening candidate projects during the Programming Phase and soliciting their feedback on potential environmental issues during the preparation of the multi-year program (MYP)
    - Establishing and using one Common Database for collecting, storing, updating, and accessing project data and environmental data, where data/feedback is provided and accessed by IDOT/Districts, MPOs, Resource Agencies, and consultants
    - Developing Memorandums of Understanding (MOUs) or Programmatic Agreements (PAs) among agencies for supporting early and continuous involvement and coordination
      Somewhat agree
    - Establishing interagency work groups, advisory groups, and/or committees for supporting early and continuous involvement and coordination
      Developing the LRTP
    - Providing agencies with a common understanding of one another's roles and responsibilities (e.g., through webinars)
    - Designating a coordinator at every MPO to be responsible for the implementation of the streamlined NEPA/planning process and for interagency coordination
    - Designating a coordinator at every District to be responsible for the implementation of the streamlined NEPA/planning process and for interagency coordination
    - Providing dedicated staff at Resource Agencies for cooperating and coordinating with IDOT/Districts and MPOs

D.3 QUESTIONNAIRE FOR RESPONDENTS FROM RESOURCE AGENCIES

1. Do you agree that conducting environmental screening of projects during the Planning Phase (during the preparation of the MPO's Long-Range Transportation Plan (LRTP)) may enhance efficiency of project development in terms of time and cost?
    - Scale of 1 to 6 (Strongly Agree to Strongly Disagree) + No opinion

2. If yes (to Q.1), when would it be the most efficient time to conduct the first environmental screening of a project?
   - Screening a candidate project PRIOR to the prioritization and selection of projects for inclusion in the MPO's Long-Range Transportation Plan (LRTP)
   - Screening priority projects once they have been selected for inclusion in the MPO's Long-Range Transportation Plan (LRTP), but PRIOR to the inclusion in the LRTP
   - Screening priority projects once they have been included in the MPO's Long-Range Transportation Plan (LRTP)
   - Other >> please specify ……

3. If yes (to Q.1), what would be the most suitable tool to use in conducting the environmental screening?
   - GIS-based tool >> please specify ……..
   - Other >> please specify ……

4. If yes (to Q.1), do you agree that establishing and using standardized environmental criteria and metrics in environmentally assessing projects may support the execution of environmental screening in a consistent manner?
   - Scale of 1 to 6 (Strongly Agree to Strongly Disagree) + No opinion

5. If yes (to Q.1), what would be the most effective way to disseminate the results of this environmental screening to blend into the NEPA process?
   - Informing IDOT/District staff, Phase I consultants, and Resource Agencies involved in the NEPA process
   - Uploading and storing the information in a Common Database
   - Other >> please specify ……

6. Do you agree that conducting environmental screening of projects during the Programming Phase (prior to Phase I Project Development) may enhance efficiency of project development in terms of time and cost?
   - Scale of 1 to 6 (Strongly Agree to Strongly Disagree) + No opinion

7. If yes (to Q.6), when would it be the most efficient time to conduct the first environmental screening of a project?
   - Screening a candidate project, at the District level, PRIOR to the prioritization and selection of projects for inclusion in the multi-year program (MYP)
   - Screening priority projects, at the District level, once they have been selected for inclusion in the multi-year program (MYP), but PRIOR to the inclusion in the multi-year program (MYP)
   - Screening priority projects, at the District level, once they have been included in the multi-year program (MYP)
   - Other >> please specify ……

8. If yes (to Q.6), what would be the most suitable tool to use in conducting the environmental screening?
   - GIS-based tool >> please specify ……..
   - Other >> please specify ……

9. If yes (to Q.6), do you agree that establishing and using standardized environmental criteria and metrics in environmentally assessing projects may support the execution of environmental screening in a consistent manner?

- Scale of 1 to 6 (Strongly Agree to Strongly Disagree) + No opinion

10. If yes (to Q.6), what would be the most effective way(s) to disseminate the results of this environmental screening to blend into the NEPA process?
    - Informing IDOT staff, Phase I consultants, and Resource Agencies involved in the NEPA process
    - Uploading and storing the data in a Common Database
    - Other >> please specify ……

11. Do you agree that requiring Corridor Studies and Feasibility Studies to be conducted in compliance with NEPA requirements could help reduce both the time and cost of the project development process, since data from these studies could be incorporated into successive NEPA studies/documents?
    - Scale of 1 to 6 (Strongly Agree to Strongly Disagree) + No opinion

12. If yes (to Q.11), do you agree that it would be beneficial to provide Phase I consultants involved in preparing Corridor Studies and/or Feasibility Studies with environmental screening information?
    - Scale of 1 to 6 (Strongly Agree to Strongly Disagree) + No opinion

13. Do you agree that early and continuous involvement and coordination with IDOT/Districts, MPOs, Resource Agencies, and consultants may support the streamlining of transportation planning and environmental/NEPA processes, and in turn may enhance efficiency of project development in terms of time and cost?
    - Scale of 1 to 6 (Strongly Agree to Strongly Disagree) + No opinion

14. If yes (to Q.13), do you consider the following ways as potentially effective means for achieving such early and continuous involvement and coordination:
    - Ensuring early coordination between Districts and MPOs while preparing the Long-Range Transportation Plans (LRTPs) by MPOs
    - Scale of 1 to 6 (Strongly Agree to Strongly Disagree) + No opinion
    - Engaging Resource Agencies in environmentally screening candidate projects during the Planning Phase and soliciting their feedback on potential environmental issues during the preparation of the Long-Range Transportation Plans (LRTPs) by MPOs
    - Engaging Resource Agencies in environmentally screening candidate projects during the Programming Phase and soliciting their feedback on potential environmental issues during the preparation of the multi-year program (MYP)
    - Establishing and using one Common Database for collecting, storing, updating, and accessing project data and environmental data, where data/feedback is provided and accessed by IDOT/Districts, MPOs, Resource Agencies, and consultants
    - Developing Memorandums of Understanding (MOUs) or Programmatic Agreements (PAs) among agencies for supporting early and continuous involvement and coordination
    - Establishing interagency work groups, advisory groups, and/or committees for supporting early and continuous involvement and coordination
    - Providing agencies with a common understanding of one another's roles and responsibilities (e.g., through webinars)
    - Designating a coordinator at every District to be responsible for the implementation of the streamlined NEPA/planning process and for interagency coordination
    - Designating a coordinator at every MPO to be responsible for the implementation of the streamlined NEPA/planning process and for interagency coordination

- Providing dedicated staff at Resource Agencies for cooperating and coordinating with IDOT/Districts and MPOs

15. If yes (to Q. 13):
    - Would you be willing to get engaged in environmentally screening candidate projects during the Planning Phase by providing feedback on potential environmental issues during the preparation of the Long-Range Transportation Plans (LRTPs) by MPOs?
        - Yes
        - No
    - Would you be willing to get engaged in environmentally screening candidate projects during the Programming Phase by providing feedback on potential environmental issues during the preparation of the multi-year program (MYP)?
    - Would you be willing to use a Common Database for accessing project information and providing feedback on environmental issues?

16. If no to any of the above sub-questions (of Q. 15), please provide the reason(s):
    - ……..

D.4 QUESTIONAIRE FOR RESPONDENTS FROM IDOT CENTRAL OFFICE, FHWA

1. Do you agree that conducting environmental screening of projects during the Planning Phase (during the preparation of the MPO's Long-Range Transportation Plan (LRTP)) may enhance efficiency of project development in terms of time and cost?
    - Scale of 1 to 6 (Strongly Agree to Strongly Disagree) + No opinion

2. If yes (to Q.1), when would it be the most efficient time to conduct the first environmental screening of a project?
    - Screening a candidate project PRIOR to the prioritization and selection of projects for inclusion in the MPO's Long-Range Transportation Plan (LRTP)
    - Screening priority projects once they have been selected for inclusion in the MPO's Long-Range Transportation Plan (LRTP), but PRIOR to the inclusion in the LRTP
    - Screening priority projects once they have been included in the MPO's Long-Range Transportation Plan (LRTP)
    - Other >> please specify ……

3. If yes (to Q.1), what would be the most suitable tool to use in conducting the environmental screening?
    - Detailed Impact Review Tool (DIRT)
    - GIS-based tool >> please specify ……..
    - Other >> please specify ……

4. If yes (to Q.1), do you agree that establishing and using standardized environmental criteria and metrics in environmentally assessing projects may support the execution of environmental screening in a consistent manner?
    - Scale of 1 to 6 (Strongly Agree to Strongly Disagree)

5. If yes (to Q.1), what would be the most effective way to disseminate the results of this environmental screening to blend into the NEPA process?
    - Informing IDOT/District staff, Phase I consultants, and Resource Agencies involved in the NEPA process

- Uploading and storing the information in a Common Database
- Other >> please specify ……

6. Do you agree that conducting environmental screening of projects during the Programming Phase (prior to Phase I Project Development) may enhance efficiency of project development in terms of time and cost?
   - Scale of 1 to 6 (Strongly Agree to Strongly Disagree) + No opinion

7. If yes (to Q.6), when would it be the most efficient time to conduct the first environmental screening of a project?
   - Screening a candidate project, at the District level, PRIOR to the prioritization and selection of projects for inclusion in the multi-year program (MYP)
   - Screening priority projects, at the District level, once they have been selected for inclusion in the multi-year program (MYP), but PRIOR to the inclusion in the multi-year program (MYP)
   - Screening priority projects, at the District level, once they have been included in the multi-year program (MYP)
   - Other >> please specify ……

8. If yes (to Q.6), what would be the most suitable tool to use in conducting the environmental screening?
   - Detailed Impact Review Tool (DIRT)
   - GIS-based tool >> please specify ……..
   - Other >> please specify ……

9. If yes (to Q.6), do you agree that establishing and using standardized environmental criteria and metrics in environmentally assessing projects may support the execution of environmental screening in a consistent manner?
   - Scale of 1 to 6 (Strongly Agree to Strongly Disagree) + No opinion

10. If yes (to Q.6), what would be the most effective way(s) to disseminate the results of this environmental screening to blend into the NEPA process?
    - Informing IDOT staff, Phase I consultants, and Resource Agencies involved in the NEPA process
    - Uploading and storing the data in a Common Database
    - Other >> please specify ……

11. Do you agree that requiring Corridor Studies and Feasibility Studies to be conducted in compliance with NEPA requirements could help reduce both the time and cost of the project development process, since data from these studies could be incorporated into successive NEPA studies/documents?
    - Scale of 1 to 6 (Strongly Agree to Strongly Disagree) + No opinion

12. If yes (to Q.11), do you agree that it would be beneficial to provide Phase I consultants involved in preparing Corridor Studies and/or Feasibility Studies with environmental screening information (e.g., information from the Detailed Impact Review Tool (DIRT))?
    - Scale of 1 to 6 (Strongly Agree to Strongly Disagree) + No opinion

13. Do you agree that early and continuous involvement and coordination with IDOT/Districts, MPOs, Resource Agencies, and consultants may support the streamlining of transportation planning and

environmental/NEPA processes, and in turn may enhance efficiency of project development in terms of time and cost?

- Scale of 1 to 6 (Strongly Agree to Strongly Disagree) + No opinion

14. If yes (to Q.13), do you consider the following ways as potentially effective means for achieving such early and continuous involvement and coordination:
    - Ensuring early coordination between Districts and MPOs while preparing the Long-Range Transportation Plans (LRTPs) by MPOs
        - Scale of 1 to 6 (Strongly Agree to Strongly Disagree) + No opinion
    - Engaging Resource Agencies in environmentally screening candidate projects during the Planning Phase and soliciting their feedback on potential environmental issues during the preparation of the Long-Range Transportation Plans (LRTPs) by MPOs
    - Engaging Resource Agencies in environmentally screening candidate projects during the Programming Phase and soliciting their feedback on potential environmental issues during the preparation of the multi-year program (MYP)
    - Establishing and using one Common Database for collecting, storing, updating, and accessing project data and environmental data, where data/feedback is provided and accessed by IDOT/Districts, MPOs, Resource Agencies, and consultants
    - Developing Memorandums of Understanding (MOUs) or Programmatic Agreements (PAs) among agencies for supporting early and continuous involvement and coordination
    - Establishing interagency work groups, advisory groups, and/or committees for supporting early and continuous involvement and coordination
    - Providing agencies with a common understanding of one another's roles and responsibilities (e.g., through webinars)
    - Designating a coordinator at every District to be responsible for the implementation of the streamlined NEPA/planning process and for interagency coordination
    - Designating a coordinator at every MPO to be responsible for the implementation of the streamlined NEPA/planning process and for interagency coordination
    - Providing dedicated staff at Resource Agencies for cooperating and coordinating with IDOT/Districts and MPOs

APPENDIX E RESULTS OF POTENTIAL INTEGRATION PRACTICES EVALUATION SURVEY

E.1 CURRENT SITUATION

The questions in the current situation section and their corresponding results are summarized below.

1. Do you currently have access to an environmental screening tool?

Table 30. Survey Results—Environmental Screening Tool Used

Environmental Screening Tool	No. of IDOT Districts	No. of MPOs	Total
NO	0	2 (17%)	2 (10%)*
Yes, DIRT	3 (33%)	0	3 (14%)*
Yes, GIS-Based Tool	1 (11%)	9 (75%)	10 (48%)*
Yes, Both	5 (56%)	0	5 (24%)*
Yes, Other	0	1 (8%)	1 (5%)*
Total Responses	9	12	21

*These percentages do not sum up to 100% due to rounding.

2. What are the planning studies that you conduct, and what are the corresponding documents that are produced to document such studies? (for respondents from MPOs)

Table 31. Survey Results—Summary of Planning Studies by MPOs

MPOs	Planning Studies
Peoria/Pekin Urban Area Transportation Study	Corridor Studies, travel demand studies, signal timing studies, economic development and sustainability project studies
McLean County Transportation Study	Comprehensive plans and transportation planning documents, including Long-Range Transportation Plans and annual Transportation Improvement Programs, Corridor Studies
Spring-Sangamon County RPC	Bicycle and pedestrian plans, economic corridor and freight studies
Chicago Metropolitan Agency for Planning	Comprehensive plans, Corridor Studies, water supply planning studies, travel demand model studies, congest mitigation and air quality studies
Danville Area Transportation Study	Long-Range Transportation Plans, Transportation Improvement Programs, unified planning work programs
Decatur Urbanized Area Transportation Study	Long-Range Transportation Plans, and Transportation Improvement Programs
DeKalb Area Transportation Study	Long-Range Transportation Plans, and Transportation Improvement Programs
Dubuque Metro Area Transportation Study	Long-Range Transportation Plans, and Transportation Improvement Programs
Kankakee Area Transportation Study	Long-Range Transportation Plans, and Transportation Improvement Programs
Bi-State Regional Commission	Long-Range Transportation Plans, Transportation Improvement Programs, bus-bike-walk plans (multi-purpose trial plans)
Rockford Metropolitan Agency for Planning	Corridor Studies, bicycle and pedestrian plans, greenway plans, economic development and freight studies, and sustainable community studies
Champaign-Urbana Area Transportation Study	Long-Range Transportation Plans, Transportation Improvement Programs, and travel demand model studies

3. When conducting this planning study, do you take environmental considerations into account? (for respondents from MPOs)

Table 32. Survey Results—Environmental Considerations During Planning Phase

Taking Environmental Considerations into Account During Planning Phase	MPOs
Yes	12 (100%)
No	0
Total Responses	12

4. Do you currently conduct environmental screening of projects during the Planning Phase, when developing the MPO's Long-Range Transportation Plan (LRTP)? (for respondents from MPOs)

Table 33. Survey Results—Environmental Screening During Planning Phase

Conducting Environmental Screening When Developing MPO's LRTP	MPOs
Yes	3 (25%)
No	9 (75%)
Total Responses	12

5. If yes (to Q.4), do you use an environmental screening tool? (for respondents from MPOs)

Table 34. Survey Results—Environmental Screening Tools During Planning Phase

Using Environmental Screening Tool When Conducting Environmental Screening During Planning Phase	MPOs*
No	3 (100%)
Yes, GIS-based tool	0
Other	0
Total Responses*	3

*MPOs that conduct environmental screening in the Planning Phase.

6. If yes (to Q.4), when do you conduct this environmental screening of projects? (for respondents from MPOs)

Table 35. Survey Results—Time for Conducting the First Environmental Screening During Planning Phase

Time for Conducting the First Environmental Screening During Planning Phase	MPOs*
Screening a candidate project PRIOR to prioritization and selection of projects for inclusion in the MPO's Long-Range Transportation Plan (LRTP)	0
Screening priority projects once selected for inclusion in the MPO's LRTP, but PRIOR to inclusion in the LRTP	3 (100%)
Screening priority projects once included in the MPO's LRTP	0
Other	0
Total Responses*	3

*MPOs who conduct environmental screening in the Planning Phase.

7. If yes (to Q.4), for which types of projects do you conduct this environmental screening of projects? (for respondents from MPOs)

Table 36. Survey Results—Type of Projects Screened during Planning Phase

Type of Project Screened During Planning Phase	MPOs*
System maintenance projects	0
Bridge maintenance projects	0
Congestion mitigation projects	0
System expansion projects	3 (100%)
Other	0
Total Responses*	3

*MPOs that conduct environmental screening in the Planning Phase.

8. If yes (to Q.5), how often do you conduct this environmental screening of projects? (for respondents from MPOs)

Table 37. Survey Results—Frequency of Environmental Screening During Planning Phase

Frequency of Environmental Screening During Panning Phase	MPOs*
For every project	0
Sometimes	0
Occasionally	3 (100%)
Other	0
Total Responses*	3

*MPOs that conduct environmental screening in the Planning Phase.

9. Do you currently conduct environmental screening of projects during the Programming/Planning Phase (prior to Phase I Project Development)? (for respondents from IDOT Districts)

Table 38. Survey Results—Environmental Screening During Programming Phase

Conducting Environmental Screening During Programming Phase	IDOT Districts
Yes	6 (67%)
No	3 (33%)
Total Responses	9

10. If yes (to Q.9), do you use an environmental screening tool? (for respondents from IDOT Districts)

Table 39. Survey Results—Environmental Screening Tools During Programming Phase

Using Environmental Screening Tool During Programming Phase	IDOT Districts*
No	0
Yes, DIRT	2 (33%)
Yes, GIS-based tool	0
Yes, both	3 (50%)
Yes, other	1 (17%)
Total Responses*	6

*IDOT Districts that conduct environmental screening in the Programming Phase.

11. If yes (to Q.9), when do you conduct this environmental screening of projects? (for respondents from IDOT Districts)

Table 40. Survey Results—Time for Conducting the First Environmental Screening During Programming Phase

Time for Conducting the First Environmental Screening During the Programming Phase	IDOT Districts*
Screening a candidate project PRIOR to prioritization and selection of projects for inclusion in the multi-year program (MYP)	1 (17%)
Screening priority projects once selected for inclusion in the MYP, but PRIOR to inclusion in the MYP	5 (83%)
Screening priority projects once included in the MYP	0
Total Responses*	6

*IDOT Districts that conduct environmental screening in the Programming Phase.

12. If yes (to Q.9), for which types of projects do you conduct this environmental screening of projects? (for respondents from IDOT Districts)

Table 41. Survey Results—Types of Projects Screened During Programming Phase

Types of Projects Screened During Programming Phase	IDOT Districts*
System maintenance projects	0
Bridge maintenance projects	0
Congestion mitigation projects	0
System expansion projects	3 (50%)
Every type of project	3 (50%)
Total Responses*	6

*IDOT Districts that conduct environmental screening in the Programming Phase.

13. If yes (to Q.9), how often do you conduct this environmental screening of projects? (for respondents from IDOT Districts)

Table 42. Survey Results—Frequency of Environmental Screening During Programming Phase

Frequency of Environmental Screening During Programming Phase	IDOT Districts*
For every project	3 (50%)
Sometimes	0
Occasionally	3 (50%)
Other	0
Total Responses*	6

*IDOT Districts that conduct environmental screening in the Programming Phase.

E.2 POTENTIAL INTEGRATION PRACTICES

The questions in the potential integration practices section and their corresponding results are summarized below.

E.2.1 Environmental Screening During the Planning Phase

1. Do you agree that conducting environmental screening of projects during the Planning Phase (during the preparation of the MPO's Long-Range Transportation Plan (LRTP)) may enhance efficiency of project development in terms of time and cost?

Table 43. Survey Results—Conducting Environmental Screening During Planning Phase

Conducting Environmental Screening During Planning Phase	MPOs	IDOT Central Office and FHWA	Resource Agencies	Total
Strongly Agree 6	0	0	0	0
Agree 5	0	0	4 (67%)	4(18%)*
Somewhat Agree 4	0	4 (100%)	2 (33%)	6 (27%)*
Somewhat Disagree 3	7 (59%)	0	0	7 (32%)*
Disagree 2	1 (8%)	0	0	1 (5%)*
Strongly Disagree 1	1 (8%)	0	0	1 (5%)*
No Opinion	3 (25%)	0	0	3 (14%)*
Total Responses, Excluding "No Opinion"	9 (75%)	4 (100%)	6 (100%)	19 (86%)
Total Responses	12	4	6	22
Mean Score	2.67	4	4.67	3.58
Median Score	3	4	5	4
Mode Score	3	4	5	3
Standard Deviation	0.71	0	0.52	1
Interpretation of Results (Based on Median)	Somewhat Disagree	Somewhat Agree	Agree	Somewhat Agree

*These percentages do not sum up to 100% due to rounding.

2. When would it be the most efficient time to conduct the first environmental screening of a project?

Table 44. Survey Results—Recommended Time for Conducting the First Environmental Screening During Planning Phase

Recommended Time for Conducting the First Environmental Screening During Planning Phase	MPOs*	IDOT Central Office and FHWA*	Resource Agencies *	Total*
Screening a candidate project PRIOR to prioritization and selection of projects for inclusion in the MPO's Long-Range Transportation Plan (LRTP)	0	1 (25%)	1 (17%)	2 (20%)
Screening priority projects once selected for inclusion in the MPO's LRTP, but PRIOR to inclusion in the LRTP	0	1 (25%)	0	1(10%)
Screening priority projects once included in the MPO's LRTP	0	2 (50%)	2 (33%)	4 (40%)
Other (once the project is funded)	0	0	3 (50%)	3 (30%)
Total Responses*	0	4	6	10

*Agencies that favor conducting environmental screening during the Planning Phase.

3. What would be the most suitable tool to use in conducting the environmental screening?

Table 45. Survey Results—Recommended Tool for Conducting Environmental Screening During Planning Phase

Recommended Tool for Conducting Environmental Screening During Planning Phase	MPOs*	IDOT Central Office and FHWA *	Resource Agencies*	Total*
GIS-based tool	0	1 (25%)	4 (67%)	5 (50%)
DIRT	0	1 (25%)	0	1 (10%)
Other	0	2 (50%)	2 (33%)	4 (40%)
Total Responses*	0	4	6	10

*Agencies that favor conducting environmental screening during the Planning Phase.

4. Do you agree that establishing and using standardized environmental criteria and metrics in environmentally assessing projects may support the execution of environmental screening in a consistent manner?

Table 46. Survey Results—Establishing and Using Environmental Criteria and Metrics for Environmental Screening During Planning Phase

Establishing and Using Standardized Environmental Criteria and Metrics During Planning Phase	**MPOs***	**IDOT Central Office and FHWA***	**Resource Agencies***	**Total***
Strongly Agree 6	0	0	0	0
Agree 5	0	2 (50%)	6 (100%)	8 (80%)
Somewhat Agree 4	0	2 (50%)	0	2 (20%)
Somewhat Disagree 3	0	0	0	0
Disagree 2	0	0	0	0
Strongly Disagree 1	0	0	0	0
No Opinion	0	0	0	0
Total Responses, Excluding "No Opinion"	0	4 (100%)	6 (100%)	10 (100%)
Total Responses*	0	4	6	10
Mean Score	NA	4.5	5	4.8
Median Score	NA	4.5	5	5
Mode Score	NA	4,5**	5	5
Standard Deviation	NA	0.58	0	0.37
Interpretation of Results (Based on Median)	NA	Somewhat Agree/Agree	Agree	Agree

*Agencies that favor conducting environmental screening during the Planning Phase.

**The mode scores are 4 and 5.

5. What would be the most effective way(s) to disseminate the results of this environmental screening to blend into the NEPA process?

Table 47. Survey Results—Recommended Way(s) to Disseminate the Results of Environmental Screening During Planning Phase

Recommended Way(s) to Disseminate the Results of Environmental Screening conducted During Planning Phase	MPOs*	IDOT Central Office and FHWA*	Resource Agencies*	Total*
Informing Phase I consultants, IDOT in-house staff, and Resource Agencies involved in the NEPA process	0	3 (75%)	0	3 (30%)
Uploading and storing the data in a Common Database	0	1 (25%)	6 (100%)	7 (70%)
Other	0	0	0	0
Total Responses*	0	4	6	10

*Agencies that favor conducting environmental screening during the Planning Phase.

E.2.2 Environmental Screening During the Programming Phase

1. Do you agree that conducting environmental screening of projects during the Programming Phase (prior to Phase I Project Development) may enhance efficiency of project development in terms of time and cost?

Table 48. Survey Results—Conducting Environmental Screening During Programming Phase

Conducting Environmental Screening During Programming Phase	IDOT Districts	IDOT Central Office and FHWA	Resource Agencies	Total
Strongly Agree 6	6 (67%)	0	1 (17%)	7 (37%)
Agree 5	1 (11%)	1 (25%)	2 (33%)	4 (21%)
Somewhat Agree 4	2 (22%)	2 (50%)	1 (17%)	5 (26%)
Somewhat Disagree 3	0	1 (25%)	0	1 (5%)
Disagree 2	0	0	0	0
Strongly Disagree 1	0	0	0	0
No Opinion	0	0	2 (33%)	2 (11 %)
Total Responses, Excluding "No Opinion"	9 (100%)	4 (100%)	4 (67%)	17 (89%)
Total Responses	9	4	6	19
Mean Score	5.44	4	5	5
Median Score	6	4	5	5
Mode Score	6	4	5	6
Standard Deviation	0.88	0.82	0.82	1
Interpretation of Result (Based on Median)	Strongly Agree	Somewhat Agree	Agree	Agree

2. When would it be the most efficient time to conduct the first environmental screening of a project?

Table 49. Survey Results—Recommended Time for Conducting the First Environmental Screening During Programming Phase

Recommended Time for Conducting the First Environmental Screening During Programming Phase	IDOT Districts*	IDOT Central Office and FHWA*	Resource Agencies*	Total*
Screening a candidate project, at District level, PRIOR to prioritization and selection of projects for inclusion in the multi-year program (MYP)	6 (67%)	1 (33%)	0	7 (44%)**
Screening priority projects, at District level, once selected for inclusion in the MYP, but PRIOR to inclusion in the MYP	3 (33%)	0	0	3 (19%)**
Screening priority projects, at district level, once included in the MYP	0	2 (67%)	0	2 (13%)**
Other: Once the project is funded	0	0	4 (100%)	4 (25%)**
Total Responses*	9	3	4	16

*Agencies that favor conducting environmental screening during the Programming Phase.
**These percentages do not sum up to 100% due to rounding.

3. What would be the most suitable tool to use in conducting the environmental screening?

Table 50. Survey Results—Recommended Tool for Conducting Environmental Screening During Programming Phase

Recommended Tool for Conducting Environmental Screening During Programing Phase	IDOT Districts*	IDOT Central Office and FHWA*	Resource Agencies*	Total*
GIS-based tool	5 (56%)	2 (67%)	0	7 (44%)**
DIRT	3 (33%)	1 (33%)	2 (50%)	6 (38%)**
Both	1 (11%)	0	0	1 (6%)**
Other (not an expert in this area)	0	0	2 (50%)	2 (13%)**
Total Responses*	9	3	4	16

*Agencies that favor conducting environmental screening during the Programming Phase.
**These percentages do not sum up to 100% due to rounding.

4. Do you agree that establishing and using standardized environmental criteria and metrics in environmentally assessing projects may support the execution of environmental screening in a consistent manner?

Table 51. Survey Result—Establishing and Using Environmental Criteria and Metrics for Environmental Screening During Programming Phase

Establishing and Using Standardized Environmental Criteria and Metrics During Programming Phase	**IDOT Districts***	**IDOT Central Office and FHWA***	**Resource Agencies***	**Total***
Strongly Agree 6	3 (33%)**	0	0	3 (19%)**
Agree 5	4 (44%)**	2 (67%)	4 (100%)	10 (63%)**
Somewhat Agree 4	1 (11%)**	1 (33%)	0	2 (13%)**
Somewhat Disagree 3	1 (11%)**	0	0	1 (6%)**
Disagree 2	0	0	0	0
Strongly Disagree 1	0	0	0	0
No Opinion	0	0	0	0
Total Responses, Excluding "No Opinion"	9 (100%)	3 (100%)	4 (100%)	16 (100%)
Total Responses*	9	3	4	16
Mean Score	5	4.67	5	4.94
Median Score	5	5	5	5
Mode Score	5	5	5	5
Standard Deviation	1	0.58	0	0.77
Interpretation of Result (Based on Median)	Agree	Agree	Agree	Agree

*Agencies that favor conducting environmental screening during the Programming Phase.

**These percentages do not sum up to 100% due to rounding.

5. What would be the most effective way(s) to disseminate the results of this environmental screening to blend into the NEPA process?

Table 52. Survey Results—Recommended Way(s) to Disseminate the Results of Environmental Screening During Programming Phase

Recommended Ways to Disseminate the Results of Environmental Screening conducted During Programming Phase	**IDOT Districts***	**IDOT Central Office and FHWA***	**Resource Agencies ***	**Total***
Informing Phase I consultants, IDOT in-house staff, and Resource Agencies involved in NEPA process	7 (78%)	3 (100%)	0	10 (63%)**
Uploading and storing the data in a Common Database	2 (22%)	0	4 (100%)	6 (38%)**
Other	0	0	0	0
Total Responses*	9	3	4	16

*Agencies that favor conducting environmental screening during the Programming Phase.

**These percentages do not sum up to 100% due to rounding.

E.2.3 Conduct Corridor Studies and Feasibility Studies in Compliance with NEPA

1. Do you agree that requiring Corridor Studies and Feasibility Studies to be conducted in compliance with NEPA requirements could help reduce both the time and cost of the project development process, since data from these studies could be incorporated into successive NEPA documents?

Table 53. Survey Results—Conducting Corridor Studies and Feasibility Studies in Compliance with NEPA Requirements

Conducting Corridor Studies and Feasibility Studies in Compliance with NEPA Requirements	IDOT Districts	IDOT Central Office and FHWA	Resource Agencies	Total
Strongly Agree 6	1 (11%)*	1 (25%)	0	2 (11%)*
Agree 5	4 (44%)*	3 (75%)	4 (67%)	11 (58%)*
Somewhat Agree 4	2 (22%)*	0	0	2 (11%)*
Somewhat Disagree 3	1 (11%)*	0	0	1 (5%)*
Disagree 2	0	0	0	0
Strongly Disagree 1	1 (11%)*	0	0	1 (5%)*
No Opinion	0	0	2 (33%)	2 (11%)*
Total Responses, Excluding "No Opinion"	9 (100%)	4 (100%)	4	17 (89%)
Total Responses*	9	4	6	19
Mean Score	4.22	5.25	5	4.65
Median Score	5	5	5	5
Mode Score	5	5	5	5
Standard Deviation	1.48	0.5	0	1.17
Interpretation of Result (Based on Median)	Agree	Agree	Agree	Agree

*These percentages do not sum up to 100% due to rounding.

2. Do you agree that it would be beneficial to provide Phase I consultants involved in preparing Corridor Studies and/or Feasibility Studies with environmental screening information (e.g., information from the Detailed Impact Review Tool (DIRT))?

Table 54. Survey Results—Providing Phase I Consultants with Environmental Screening Information

Providing Phase I Consultants involved in Corridor and/or Feasibility Studies with Environmental Screening Information	**IDOT Districts***	**IDOT Central Office and FHWA***	**Resource Agencies***	**Total***
Strongly Agree 6	1 (14%)**	0	0	1 (7%)**
Agree 5	3 (43%)**	4 (100%)	2 (50%)	9 (60%)**
Somewhat Agree 4	1 (14%)**	0	0	1 (7%)**
Somewhat Disagree 3	1 (14%)**	0	0	1 (7%)**
Disagree 2	0	0	0	0
Strongly Disagree 1	0	0	0	0
No Opinion	1 (14%)**	0	2 (50%)	3 (20%)**
Total Responses, Excluding "No Opinion"	6 (86%)	4 (100%)	2 (50%)	12 (80%)
Total Responses*	7	4	4	15
Mean Score	4.67	5	5	4.83
Median Score	5	5	5	5
Mode Score	5	5	5	5
Standard Deviation	1.03	0	0	0.72
Interpretation of Result (Based on Median)	Agree	Agree	Agree	Agree

*Agencies that favor requiring Corridor Study and feasibility study in compliance with NEPA

**These percentages do not sum up to 100% due to rounding.

E.2.4 Early and Continuous Involvement and Coordination

1. Do you agree that early and continuous involvement and coordination with IDOT/Districts, MPOs, Resource Agencies, and consultants may support the streamlining of transportation planning and environmental/NEPA processes, and in turn may enhance efficiency of project development in terms of time and cost?

Table 55. Survey Results—Early and Continuous Involvement and Coordination

Early and Continuous Involvement and Coordination with IDOT/Districts, MPOs, Resource Agencies, and Consultants	IDOT Districts	IDOT Central Office and FHWA	Resource Agencies	MPOs	Total
Strongly Agree 6	2 (22%)*	0	0	0	2 (6%)*
Agree 5	4 (44%)*	3 (75%)	6 (100%)	9 (75%)	22 (71%)*
Somewhat Agree 4	2 (22%)*	1 (25%)	0	3 (25%)	6 (19%)*
Somewhat Disagree 3	0	0	0	0	0
Disagree 2	0	0	0	0	0
Strongly Disagree 1	0	0	0	0	0
No Opinion	1 (11%)*	0	0	0	1 (3%)*
Total Responses, Excluding "No Opinion"	8 (89%)	4 (100%)	6 (100%)	12 (100%)	30 (97%)
Total Responses	9	4	6	12	31
Mean Score	5	4.75	5	4.75	4.87
Median Score	5	5	5	5	5
Mode Score	5	5	5	5	5
Standard Deviation	0.76	0.5	0	0.45	0.51
Interpretation of Result (Based on Median)	Agree	Agree	Agree	Agree	Agree

*These percentages do not sum up to 100% due to rounding.

2. Do you consider the following way as potentially effective means for achieving early and continuous involvement and coordination: Ensuring early coordination between Districts and MPOs while preparing the Long-Range Transportation Plans by MPOs?

Table 56. Survey Results—Ensuring Early Coordination While Preparing the LRTPs by MPOs

Ensuring Early Coordination Between Districts and MPOs While Preparing the LRTPs by MPOs	**IDOT Districts**	**IDOT Central Office and FHWA**	**Resource Agencies**	**MPOs**	**Total**
Strongly Agree 6	4 (44%)*	0	0	9 (75%)	13 (42%)
Agree 5	4 (44%)*	4 (100%)	3 (50%)	3 (25%)	14 (45%)
Somewhat Agree 4	0	0	0	0	0
Somewhat Disagree 3	0	0	0	0	0
Disagree 2	0	0	0	0	0
Strongly Disagree 1	0	0	0	0	0
No Opinion	1 (11%)*	0	3 (50%)	0	4 (13%)
Total Responses, Excluding "No Opinion"	8 (89%)	4 (100%)	3 (50%)	12 (100%)	27 (87%)
Total Responses	9	4	6	12	31
Mean Score	5.5	5	5	5.75	5.48
Median Score	5.5	5	5	6	5
Mode Score	5,6**	5	5	6	5
Standard Deviation	0.53	0	0	0.45	0.51
Interpretation of Result (Based on Median)	Agree/ Strongly Agree	Agree	Agree	Strongly Agree	Agree

*These percentages do not sum up to 100% due to rounding.

**The mode scores are 5 and 6.

3. Do you consider the following way as potentially effective means for achieving early and continuous involvement and coordination: Engaging Resource Agencies in environmentally screening candidate projects during the Planning Phase and soliciting their feedback on potential environmental issues during the preparation of the Long-Range Transportation Plans by MPOs?

Table 57. Survey Results—Engaging Resource Agencies in Environmental Screening During Planning Phase

Engaging Resource Agencies in Environmental Screening During the Planning Phase	**IDOT Districts**	**IDOT Central Office and FHWA**	**Resource Agencies**	**MPOs**	**Total**
Strongly Agree 6	4 (44%)*	0	0	0	4 (13%)
Agree 5	3 (33%)*	2 (50%)	2 (33%)	0	7 (23%)
Somewhat Agree 4	0	1 (25%)	2 (33%)	3 (25%)	6 (19%)
Somewhat Disagree 3	1 (11%)*	1 (25%)	1 (17%)	6 (50%)	9 (29%)
Disagree 2	0	0	0	0	0
Strongly Disagree 1	0	0	0	0	0
No Opinion	1 (11%)*	0	1 (17%)	3 (25%)	5 (16%)
Total Responses, Excluding "No Opinion"	8 (89%)	4 (100%)	5 (83%)	9 (75%)	26 (84%)
Total Responses	9	4	6	12	31
Mean Score	5.25	4.25	4.2	3.33	4.23
Median Score	5.5	4.5	4	3	4
Mode Score	6	5	4,5**	3	3
Standard Deviation	1.04	0.96	0.84	0.5	1.11
Interpretation of Result (Based on Median)	Agree/ Strongly Agree	Somewhat Agree/ Agree	Somewhat Agree	Somewhat Disagree	Somewhat Agree

*These percentages do not sum up to 100% due to rounding.

**The mode scores are 4 and 5.

4. Do you consider the following way as potentially effective means for achieving early and continuous involvement and coordination: Engaging Resource Agencies in environmentally screening candidate projects during the Programming Phase and soliciting their feedback on potential environmental issues during the preparation of the multi-year program (MYP)?

Table 58. Survey Results—Engaging Resource Agencies in Environmental Screening During Programming Phase

Engaging Resource Agencies in Environmental Screening During the Programming Phase	**IDOT Districts**	**IDOT Central Office and FHWA**	**Resource Agencies**	**MPOs**	**Total**
Strongly Agree 6	0	0	0	0	0
Agree 5	5 (56%)	2 (50%)	2 (33%)	3 (25%)	12 (39%)
Somewhat Agree 4	3 (33%)	1 (25%)	2 (33%)	6 (50%)	12 (39%)
Somewhat Disagree 3	0	1 (25%)	1 (17%)	0	2 (6%)
Disagree 2	0	0	0	0	0
Strongly Disagree 1	0	0	0	0	0
No Opinion	1 (11%)	0	1 (17%)	3 (25%)	5 (16%)
Total Responses, Excluding "No Opinion"	8 (89%)	4 (100%)	5 (83%)	9 (75%)	26 (84%)
Total Responses	9	4	6	12	31
Mean Score	4.63	4.25	4.2	4.33	4.38
Median Score	5	4.5	4	4	4
Mode Score	5	5	5	4	4,5*
Standard Deviation	0.52	0.96	0.84	0.5	0.64
Interpretation of Result (Based on Median)	Agree	Somewhat Agree/ Agree	Somewhat Agree	Somewhat Agree	Somewhat Agree

*The mode scores are 4 and 5.

5. Do you consider the following way as potentially effective means for achieving early and continuous involvement and coordination: Establishing and using one Common Database for collecting, storing, updating, and accessing project data and environmental data, where data/feedback is provided and accessed by IDOT/Districts, MPOs, Resource Agencies, and consultants?

Table 59. Survey Results—Establishing and Using One Common Database

Establishing and Using One Common Database	IDOT Districts	IDOT Central Office and FHWA	Resource Agencies	MPOs	Total
Strongly Agree 6	3 (33%)	0	0	0	3 (10%)*
Agree 5	6 (67%)	4 (100%)	6 (100%)	9 (75%)	25 (81%)*
Somewhat Agree 4	0	0	0	3 (25%)	3 (10%)*
Somewhat Disagree 3	0	0	0	0	0
Disagree 2	0	0	0	0	0
Strongly Disagree 1	0	0	0	0	0
No Opinion	0	0	0	0	0
Total Responses, Excluding "No Opinion"	9 (100%)	4 (100%)	6 (100%)	12 (100%)	31 (100%)
Total Responses	9	4	6	12	31
Mean Score	5.33	5	5	4.75	5
Median Score	5	5	5	5	5
Mode Score	5	5	5	5	5
Standard Deviation	0.5	0	0	0.45	0.45
Interpretation of Result (Based on Median)	Agree	Agree	Agree	Agree	Agree

*These percentages do not sum up to 100% due to rounding.

6. Do you consider the following way as potentially effective means for achieving early and continuous involvement and coordination: Developing Memorandums of Understanding (MOUs) or Programmatic Agreements (PAs) among agencies for supporting early and continuous involvement and coordination?

Table 60. Survey Results—Developing Memorandums of Understanding (MOUs) or Programmatic Agreements (PAs)

Developing Memorandums of Understanding (MOUs) or Programmatic Agreements (PAs)	IDOT Districts	IDOT Central Office and FHWA	Resource Agencies	MPOs	Total
Strongly Agree 6	3 (33%)	0	0	0	3 (10%)
Agree 5	5 (56%)	3 (75%)	4 (67%)*	9 (75%)	21 (68%)
Somewhat Agree 4	0	1 (25%)	1 (17%)*	3 (25%)	5 (16%)
Somewhat Disagree 3	0	0	1 (17%)*	0	1 (3%)
Disagree 2	0	0	0	0	0
Strongly Disagree 1	0	0	0	0	0
No Opinion	1 (11%)	0	0	0	1 (3%)
Total Responses, Excluding "No Opinion"	8 (89%)	4 (100%)	6 (100%)	12 (12%)	30 (97%)
Total Responses	9	4	6	12	31
Mean Score	5.38	4.75	4.5	4.75	4.87
Median Score	5	5	5	5	5
Mode Score	5	5	5	5	5
Standard Deviation	0.52	0.5	0.84	0.45	0.63
Interpretation of Result (Based on Median)	Agree	Agree	Agree	Agree	Agree

*These percentages do not sum up to 100% due to rounding.

7. Do you consider the following way as potentially effective means for achieving early and continuous involvement and coordination: Establishing interagency work groups, advisory groups, and/or committees for supporting early and continuous involvement and coordination?

Table 61. Survey Results—Establishing Interagency Work Groups, Advisory Groups, and/or Committees

Establishing Interagency Work Groups, Advisory Groups, and/or Committees	**IDOT Districts**	**IDOT Central Office and FHWA**	**Resource Agencies**	**MPOs**	**Total**
Strongly Agree 6	1 (11%)	0	0	0	1 (3%)*
Agree 5	5 (56%)	3 (75%)	4 (67%)*	6 (50%)	18 (58%)*
Somewhat Agree 4	2 (22%)	1 (25%)	0	3 (25%)	6 (19%)*
Somewhat Disagree 3	0	0	1 (17%)*	3 (25%)	4 (13%)*
Disagree 2	0	0	0	0	0
Strongly Disagree 1	0	0	0	0	0
No Opinion	1 (11%)	0	1 (17%)*	0	2 (6%)*
Total Responses, Excluding "No Opinion"	8 (89%)	4 (100%)	5 (83%)	12 (100%)	29 (94%)
Total Responses	9	4	6	12	31
Mean Score	4.88	4.75	4.6	4.25	4.55
Median Score	5	5	5	4.5	5
Mode Score	5	5	5	5	5
Standard Deviation	0.64	0.5	0.89	0.87	0.78
Interpretation of Result (Based on Median)	Agree	Agree	Agree	Somewhat Agree/ Agree	Agree

*These percentages do not sum up to 100% due to rounding.

8. Do you consider the following way as potentially effective means for achieving early and continuous involvement and coordination: Providing agencies with a common understanding of one another's roles and responsibilities (e.g., through webinars)?

Table 62. Survey Results—Providing Agencies with a Common Understanding of One Another's Roles and Responsibilities

Providing Agencies with a Common Understanding of One Another's Roles and Responsibilities	IDOT Districts	IDOT Central Office and FHWA	Resource Agencies	MPOs	Total
Strongly Agree 6	5 (56%)	0	0	1 (8%)	6 (19%)
Agree 5	3 (33%)	4 (100%)	6(100%)	9 (75%)	22 (71%)
Somewhat Agree 4	1 (11%)	0	0	2 (17%)	3 (10%)
Somewhat Disagree 3	0	0	0	0	0
Disagree 2	0	0	0	0	0
Strongly Disagree 1	0	0	0	0	0
No Opinion	0	0	0	0	0
Total Responses, Excluding "No Opinion"	9 (100%)	4 (100%)	6(100%)	12 (100%)	31 (100%)
Total Responses	9	4	6	12	31
Mean Score	5.44	5	5	4.92	5.1
Median Score	6	5	5	5	5
Mode Score	6	5	5	5	5
Standard Deviation	0.73	0	0	0.51	0.54
Interpretation of Result (Based on Median)	Strongly Agree	Agree	Agree	Agree	Agree

9. Do you consider the following way as potentially effective means for achieving early and continuous involvement and coordination: Designating a coordinator at every District to be responsible for the implementation of the streamlined NEPA/planning process and for interagency coordination?

Table 63. Survey Results—Designating a Coordinator at Every District

Designating a Coordinator at Every District	IDOT Districts	IDOT Central Office and FHWA	Resource Agencies	MPOs	Total
Strongly Agree 6	0	0	0	0	0
Agree 5	7 (78%)	4 (100%)	6 (100%)	6 (50%)	23 (74%)
Somewhat Agree 4	1 (11%)	0	0	6 (50%)	7 (23%)
Somewhat Disagree 3	0	0	0	0	0
Disagree 2	1 (11%)	0	0	0	1 (3%)
Strongly Disagree 1	0	0	0	0	0
No Opinion	0	0	0	0	0
Total Responses, Excluding "No Opinion"	9	4 (100%)	6 (100%)	12 (100%)	31 (100%)
Total Responses	9	4	6	12	31
Mean Score	4.56	5	5	4.5	4.68
Median Score	5	5	5	4.5	5
Mode Score	5	5	5	4,5*	5
Standard Deviation	1.01	0	0	0.52	0.65
Interpretation of Result (Based on Median)	Agree	Agree	Agree	Somewhat Agree/ Agree	Agree

*The mode scores are 4 and 5.

10. Do you consider the following way as potentially effective means for achieving early and continuous involvement and coordination: Designating a coordinator at every MPO to be responsible for the implementation of the streamlined NEPA/planning processes and for interagency coordination?

Table 64. Survey Results—Designating a Coordinator at Every MPO

Designating a Coordinator at Every MPO	IDOT Districts	IDOT Central Office and FHWA	Resource Agencies	MPOs	Total
Strongly Agree 6	1 (11%)	0	0	0	1 (3%)*
Agree 5	5 (56%)	4 (100%)	6 (100%)	3 (25%)*	18 (58%)*
Somewhat Agree 4	0	0	0	7 (58%)*	7 (23%)*
Somewhat Disagree 3	1 (11%)	0	0	1 (8%)*	2 (6%)*
Disagree 2	0	0	0	1 (8%)*	1 (3%)*
Strongly Disagree 1	0	0	0	0	0
No Opinion	2 (22%)	0	0	0	2 (6%)*
Total Responses, Excluding "No Opinion"	7 (78%)	4 (100%)	6 (100%)	12 (100%)	29 (94%)
Total Responses	9	4	6	12	31
Mean Score	4.86	5	5	4	4.55
Median Score	5	5	5	4	5
Mode Score	5	5	5	4	5
Standard Deviation	0.90	0	0	0.85	0.83
Interpretation of Result (Based on Median)	Agree	Agree	Agree	Somewhat Agree	Agree

*These percentages do not sum up to 100% due to rounding.

11. Do you consider the following way as potentially effective means for achieving such early and continuous involvement and coordination: Providing dedicated staff at Resource Agencies for cooperating and coordinating with IDOT/Districts and MPOs?

Table 65. Survey Results—Providing Dedicated Staff at Resource Agencies

Providing Dedicated Staff at Resource Agencies	IDOT Districts	IDOT Central Office and FHWA	Resource Agencies	MPOs	Total
Strongly Agree 6	5 (56%)	0	0	12 (100%)	17 (55%)
Agree 5	3 (33%)	4 (100%)	1 (17%)	0	8 (26%)
Somewhat Agree 4	1 (11%)	0	3 (50%)	0	4 (13%)
Somewhat Disagree 3	0	0	2 (33%)	0	2 (6%)
Disagree 2	0	0	0	0	0
Strongly Disagree 1	0	0	0	0	0
No Opinion	0	0	0	0	0
Total Responses, Excluding "No Opinion"	9 (100%)	4 (100%)	6 (100%)	12 (100%)	31 (100%)
Total Responses	9	4	6	12	31
Mean Score	5.44	5	3.83	6	5.29
Median Score	6	5	4	6	6
Mode Score	6	5	4	6	6
Standard Deviation	0.73	0	0.75	0	0.94
Interpretation of Result (Based on Median)	Strongly Agree	Agree	Somewhat Agree	Strongly Agree	Strongly Agree

APPENDIX F QUESTIONNAIRE FOR EVALUATION OF PROPOSED INTEGRATED IDOT-MPO-NEPA PLANNING PROCESS

Collaboration-Oriented Integration Practices

1. Do you agree with the functions of the Common Database, as described in the draft Guidance Document?

   Please specify any suggestions or recommendations.

2. Do you agree with the responsibilities of the Designated Coordinators, as described in the draft Guidance Document?

   Please specify any suggestions or recommendations.

3. Do you agree with the responsibilities of the Environmental Coordinators, as described in the draft Guidance Document?

   Please specify any suggestions or recommendations.

4. Do you agree with the responsibilities of the Interagency Advisory Group, as described in the draft Guidance Document?

   Please specify any suggestions or recommendations.

5. Do you agree with the compositions (i.e., members) of the Interagency Advisory Group, as described in the draft Guidance Document?

   Please specify any suggestions or recommendations.

6. Do you agree with the description of Memorandums of Understanding (MOUs) and Programmatic Agreements (PAs), as described in the draft Guidance Document?

   Please specify any suggestions or recommendations.

7. Do you agree with the description of training and outreach activities, as described in the draft Guidance Document?

   Please specify any suggestions or recommendations.

Process-Oriented Integration Practices

LRTP

8. Do you agree with the procedure for interagency coordination during the development of the MPO's Long-Range Transportation Plan (LRTP), as described in the draft Guidance Document?

   Please specify any suggestions or recommendations.

Planning Screen

9. Do you agree with the procedure for conducting the Planning Screen, as described in the draft Guidance Document?

   Please specify any suggestions and recommendations.

10. Do you agree with the procedure for interagency coordination during the Planning Screen, as described in the draft Guidance Document?

    Please specify any suggestions and recommendations.

11. Do you agree with the recommended types of data to be collected during the Planning Screen, as described in the draft Guidance Document?

    Please specify any suggestions and recommendations.

12. Do you agree with the procedure for conducting the standard GIS analyses during the Planning Screen, as described in the draft Guidance Document?

    Please specify any suggestions and recommendations.

13. Do you agree with the procedure for evaluation of project effects during the Planning Screen, as described in the draft Guidance Document?

    Please specify any suggestions and recommendations.

14. Do you agree with the use of the recommended criteria and metrics as standardized criteria and metrics during the Planning Screen, as described in the draft Guidance Document?

    Do you suggest adding any criteria and metrics? If yes, please specify.

    Do you suggest deleting any recommended criteria and metrics because you think they are irrelevant? If yes, please specify.

Do you suggest deleting any recommended criteria and metrics because you think they are inappropriate (e.g., lack data to implement)? If yes, please specify.

15. Do you agree with the use of the recommended indicators during the Planning Screen, as described in the draft Guidance Document:

    Do you suggest adding any indicators? If yes, please specify.

    Do you suggest deleting any recommended indicators because you think they are irrelevant? If yes, please specify.

    Do you suggest deleting any recommended indicators because you think they are inappropriate (e.g., lack data to implement)? If yes, please specify.

16. Do you agree with the content of the Planning Screen Summary Report, as described in the draft Guidance Document?

    Please specify any suggestions and recommendations.

MYP

17. Do you agree with the procedure for interagency coordination during the development of IDOT's multi-year program (MYP), as described in the draft Guidance Document?

    Please specify any suggestions and recommendations.

Programming Screen

18. Do you agree with the procedure for conducting the Programming Screen, as described in the draft Guidance Document?

    Please specify any suggestions and recommendations.

19. Do you agree with the procedure for interagency coordination during the Programming Screen, as described in the draft Guidance Document?

    Please specify any suggestions and recommendations.

20. Do you agree with the recommended types of data to be collected during the Programming Screen, as described in the draft Guidance Document?

    Please specify any suggestions and recommendations.

21. Do you agree with the procedure for conducting the standard GIS analyses during the Programming Screen, as described in the draft Guidance Document?

    Please specify any suggestions and recommendations.

22. Do you agree with the procedure for evaluation of project effects during the Programming Screen, as described in the draft Guidance Document?

    Please specify any suggestions and recommendations.

23. Do you agree with the use of the recommended criteria and metrics as standardized criteria and metrics during the Programming Screen, as described in the draft Guidance Document?

    Do you suggest adding any criteria and metrics? If yes, please specify.

    Do you suggest deleting any recommended criteria and metrics because you think they are irrelevant? If yes, please specify.

    Do you suggest deleting any recommended criteria and metrics because you think they are inappropriate (e.g., lack data to implement)? If yes, please specify.

24. Do you agree with the use of the recommended indicators during the Programming Screen, as described in the draft Guidance Document:

    Do you suggest adding any indicators? If yes, please specify.

    Do you suggest deleting any recommended indicators because you think they are irrelevant? If yes, please specify.

    Do you suggest deleting any recommended indicators because you think they are inappropriate (e.g., lack data to implement)? If yes, please specify.

25. Do you agree with the content of the Programming Screen Summary Report, as described in the draft Guidance Document?

    Please specify any suggestions and recommendations.

Corridor/Feasibility Studies

26. Do you agree with the procedure for interagency coordination during the preparation of Corridor/Feasibility Studies, as described in the draft Guidance Document?

    Please specify any suggestions and recommendations.

27. Do you agree with the procedure for conducting Corridor/Feasibility Studies according to NEPA regulatory requirements, as described in the draft Guidance Document?

    Please specify any suggestions and recommendations.

28. Do you agree with the procedure for conducting Corridor/Feasibility Studies according to NEPA documentation requirements, as described in the draft Guidance Document?

    Please specify any suggestions and recommendations.

Phase I Design

29. Do you agree with the procedure for interagency coordination during Phase I Design, as described in the draft Guidance Document?

    Please specify any suggestions and recommendations.

Process Representation and Interactions

30. Do you agree with the process interactions shown in the IDOT-MPO-NEPA Integrated Planning Process Flow Chart, as described in the draft Guidance Document?

    Please specify any suggestions or recommendations.

31. Do you agree with the process inputs and outputs shown in the Input-Output-Actor Table, as described in the draft Guidance Document?

    Please specify any suggestions or recommendations.

32. Do you agree with the process actors shown in the Input-Output-Actor Table, as described in the draft Guidance Document?

    Please specify any suggestions or recommendations.

Evaluation of the Proposed Integrated IDOT-MPO-NEPA Planning Process

33. Do you agree with the interagency coordination and communication performance measures for evaluating the Integrated IDOT-MPO-NEPA Planning Process, as described in the draft Guidance Document?

    Do you suggest adding any performance measures? If yes, please specify.

Do you suggest deleting any performance measures because you think they are irrelevant? If yes, please specify.

Do you suggest deleting any performance measures because you think they are inappropriate (e.g., lack data to implement)? If yes, please specify.

34. Do you agree with the project delivery performance measures for evaluating the Integrated IDOT-MPO-NEPA Planning Process, as described in the draft Guidance Document?

    Do you suggest adding any performance measures? If yes, please specify.

    Do you suggest deleting any performance measures because you think they are irrelevant? If yes, please specify.

    Do you suggest deleting any performance measures because you think they are inappropriate (e.g., lack data to implement)? If yes, please specify.

35. Do you agree with the compliance with NEPA requirements performance measures for evaluating the Integrated IDOT-MPO-NEPA Planning Process, as described in the draft Guidance Document?

    Do you suggest adding any performance measures? If yes, please specify.

    Do you suggest deleting any performance measures because you think they are irrelevant? If yes, please specify.

    Do you suggest deleting any performance measures because you think they are inappropriate (e.g., lack data to implement)? If yes, please specify.

APPENDIX G FINAL GUIDANCE DOCUMENT

G.1 INTEGRATED IDOT-MPO-NEPA PLANNING PROCESS

G.1.1 Purpose

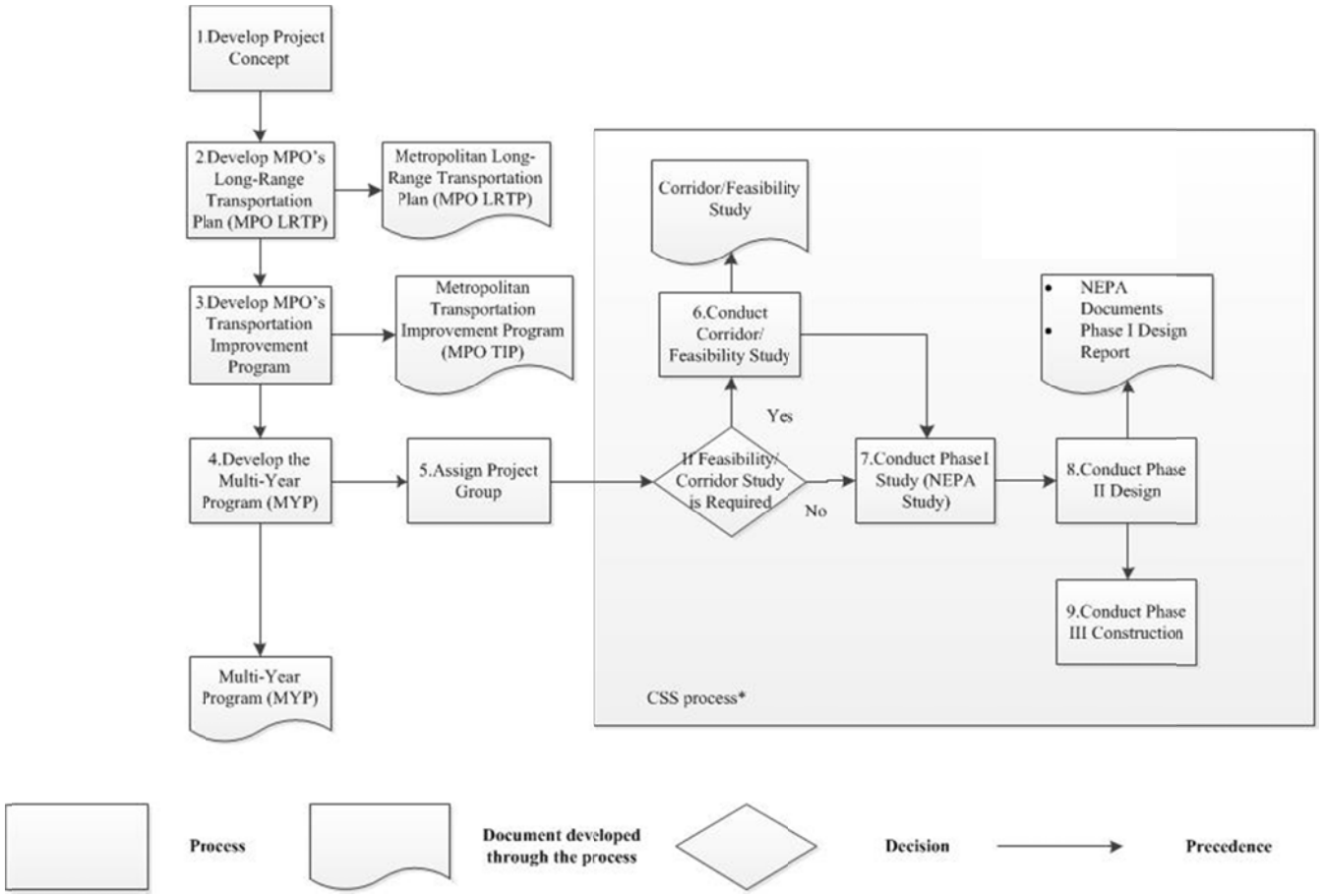
The purpose of this document is to provide guidance on how to integrate the National Environmental Policy Act (NEPA) into the IDOT planning process and the Metropolitan Planning Organization (MPO) planning process for large-scale highway projects, in a manner to ensure both compliance with NEPA and efficiency of project development in terms of time and cost. It is noted that the implementation of this guidance by MPOs is voluntary.

This Guidance Document is the product of the ICT Project R27-132 “Incorporating NEPA into IDOT and MPO Planning Processes” and is developed based on (1) extensive literature review of IDOT planning process, MPO planning process, NEPA process, and practices of integrating NEPA into transportation planning processes in other states, and (2) expert interviews with a total number of 31 experts from FHWA, IDOT central office, IDOT Districts, MPOs, and Resource Agencies.

The IDOT-MPO-NEPA Planning Process applies to large-scale highway projects that would likely be processed as Environmental Assessment (EA) projects or Environmental Impact Statement (EIS) projects. If a candidate project has been included in an MPO’s Long-Range Transportation Plan (LRTP) and that MPO is voluntarily implementing the IDOT-MPO-NEPA Planning Process, then the project should go through a Planning Screen and this screen should be updated in the Programming Screen. If a candidate project has not been included in the MPO’s LRTP or the MPO does not voluntarily implement the IDOT-MPO-NEPA Planning Process, then the project should only be screened in the Programming Screen. The Planning Screen and Programming Screen both begin with data collection and standard GIS analyses but with different levels of details. The Planning Screen focuses on the evaluation of known resource presence within the project area, while the Programming Screen focuses on evaluating potential effects of the project on resources, and identifying project-specific environmental studies and analyses that are needed to satisfy NEPA.

G.1.2 Original IDOT, MPO, and NEPA Planning Processes

This section provides a brief summary of the existing IDOT, MPO, and NEPA planning processes. The process flow chart is shown in Figure 1. A short description of the existing processes is provided in this paragraph (IDOT 2010). During the Planning Phase, a project originates from a project concept that aims at solving statewide or specific local transportation needs. After the project concept has been developed, it will be submitted for consideration in the MPO’s LRTP. After a project prioritization process, if the project involves major transportation investment, improvement or enhancement, it will then be included in the MPO’s LRTP. Before the project is submitted to be included in the IDOT’s Multi-Year Program (MYP), it is first included in the MPO’s Transportation Improvement Program (TIP). When it comes to the Programming Phase the project will be submitted to IDOT districts for consideration in the IDOT’s MYP. Once the project has been selected for inclusion in the MYP, a Project Group will be assigned and should start developing the preliminary Purpose and Need. If IDOT decides that the project should follow the principles of Context Sensitive Solution (CSS), the CSS process will be initiated and should continue until the end of Phase III Construction. If the project requires a Corridor Study to investigate available corridors or a Feasibility Study to evaluate whether a future study is necessary, this will be conducted before the start of Phase I Studies. Phase I Studies will be conducted to determine the specific alignments, profiles, and major design features of the proposed project with proper social, economic, and environmental considerations, and the NEPA study is part of the Phase I Studies. Following Phase I Studies, Phase II Design will be conducted to prepare the final design and construction bid documents and ensure the project is ready for Phase III Construction.



*The Context Sensitive Solution (CSS) process is initiated after the Project Group is assigned and continues until the end of Phase III.

Figure 1. Original IDOT, MPO, and NEPA planning processes

G.1.3 Summary of Recommended Integration Practices

Two types of interrelated integration practices are recommended: (1) process-oriented integration practices, and (2) collaboration-oriented integration practices.

The following is a summary of the recommended process-oriented integration practices (further details are provided in Section G.1.5):

- Long-Range Transportation Plan (LRTP) Preparation
    - Ensuring early coordination between Districts and MPOs while preparing the LRTPs by MPOs
    - Soliciting the feedback of Resource Agencies on potential environmental issues during the preparation of the LRTPs by MPOs
- Planning Screen (please refer to Section G.1.5.3 for further description of the Planning Screen)
    - Conducting an environmental screening of priority projects, using a GIS-based tool, once they have been included in the MPO's LRTP
    - Engaging Resource Agencies in environmentally screening priority projects during the Planning Screen
    - Establishing and using standardized environmental criteria and metrics for environmentally assessing projects during the Planning Screen
    - Informing Phase I consultants, IDOT in-house staff, and Resource Agencies involved in the NEPA process of the results of the Planning Screen
    - Uploading and storing the data and results of the Planning Screen in a Common Database
- Multi-Year Program (MYP) Preparation
    - Soliciting the feedback of Resource Agencies on potential environmental issues during the preparation of the MYP
- Programming Screen (please refer to Section G.1.5.6 for further description of the Programming Screen)
    - Conducting an environmental screening of priority projects, at the District level and using a GIS-based tool, once they have been included in the IDOT's MYP.
    - Engaging Resource Agencies in environmentally screening priority projects during the Programming Screen
    - Establishing and using standardized environmental criteria and metrics for environmentally assessing projects during the Programming Screen
    - Informing Phase I consultants, IDOT in-house staff, and Resource Agencies involved in the NEPA process of the results of the Programming Screen
    - Uploading and storing the data and results of the Programing Screen in a Common Database
- Corridor/Feasibility Studies Preparation
    - Conducting Corridor/Feasibility Studies in compliance with NEPA requirements

- Providing Phase I consultants involved in preparing Corridor/Feasibility Studies with the data and results of the Planning Screen and Programming Screen

The following is a summary of the recommended collaboration-oriented integration practices (further details are provided in Section G.1.4):

- Common Database
  - Establishing and using one Common Database for collecting, storing, updating, and accessing project data and environmental data, where data/feedback is provided and accessed by IDOT/Districts, MPOs, Resource Agencies, and consultants
- Designated Coordinators
  - Designating a coordinator at every District to be responsible for the implementation of the Integrated IDOT-MPO-NEPA Process and for interagency coordination
  - Designating a coordinator at every MPO to be responsible for the implementation of the Integrated IDOT-MPO-NEPA Process and for interagency coordination
- Dedicated Staff at Resource Agencies
  - Providing dedicated staff at Resource Agencies for cooperating and coordinating with IDOT/Districts and MPOs
- Interagency Advisory Groups
  - Establishing interagency work groups, advisory groups, and/or committees for supporting early and continuous involvement and coordination
- Memorandums of Understanding and Programmatic Agreements
  - Developing Memorandums of Understanding (MOUs) or Programmatic Agreements (PAs) among agencies for supporting early and continuous involvement and coordination
- Training and Outreach
  - Providing agencies with a common understanding of one another's roles and responsibilities

G.1.4 Collaboration-Oriented Integration Practices

G.1.4.1 Common Database

To facilitate effective implementation of the Integrated IDOT-MPO-NEPA Planning Process, one Common Database needs to be established and used for collecting, storing, updating, and accessing project data.

The Common Database should include all relevant (i.e., relevant to the Integrated IDOT-MPO-NEPA Planning Process) project data at different milestones including the Planning Screen (described in Section G.1.5.3), the Programming Screen (described in Section G.1.5.6), the Corridor/Feasibility Study (described in Section G.1.5.9), and the NEPA study (described in Section G.1.5.10).

IDOT should take the lead in developing the Common Database and conducting routine maintenance (e.g., server or software) of the database, and other agencies should primarily provide and update the data in the Common Database.

The Designated Coordinators (described in Section G.1.4.2) from MPOs and IDOT Districts are responsible for providing and updating the project data during the Planning Screen and Programing

Screen. The data includes project description, resource data used in Planning Screen and Programming Screen, results of the standard GIS analyses, comments from Interagency Advisory Group (described in Section G.1.4.4), Planning Screen Summary Report, and Programming Screen Summary Report.

The Project Group is responsible for providing and updating the project data during the Corridor/Feasibility Study and NEPA study. The data includes Corridor/Feasibility Study report, public comments on the Corridor/Feasibility Study, draft Environmental Assessment (EA), final EA, public comments on draft EA, Finding of No Significant Impact (FONSI), Notice of Intent (NOI), draft Environmental Impact Statement (EIS), public comments on draft EIS, final EIS, and Record of Decision (ROD).

Environmental Coordinators (described in Section G.1.4.3), Interagency Advisory Group, and other staff from IDOT/Districts, MPOs, Resource Agencies, and consultants would also have access to the Common Database.

G.1.4.2 Designated Coordinators

A coordinator should be designated at each IDOT District and at each MPO to be responsible for the implementation of the Integrated IDOT-MPO-NEPA Planning Process and for interagency coordination.

The main responsibilities of a Designated Coordinator from an MPO are:

- Ensuring timely information flow between staff who participate in the Integrated DOT-MPO-NEPA Planning Process and staff who maintain the needed information within the MPO
- Ensuring timely exchange of project information between the MPO and the IDOT District in cooperation with appropriate staff
- Assisting the MPO in collecting project data, environmental, socioeconomic, and cultural resources data for the Planning Screen
- Maintaining a schedule for Interagency Advisory Group's (described in Section G.1.4.4) review of the standard GIS analyses results during the Planning Screen
- Verifying that all inputs from the Interagency Advisory Group (described in Section G.1.4.4) have been received by the MPO within the specified review period during the Planning Screen
- Monitoring the commentary from the Interagency Advisory Group and conducting personal communication to clarify issues or respond to questions during the Planning Screen
- Communicating the commentary from the Interagency Advisory Group to the appropriate staff and ensuring that the Interagency Advisory Group receives responses from the appropriate staff as the project advances during the Planning Screen
- Identifying actions that are necessary to advance the project based on the relevant commentary from the Interagency Advisory Group during the Planning Screen
- Uploading and updating the project data during the Planning Screen
- Assisting the MPO in developing the Planning Screen Summary Report in cooperation with Environmental Coordinators
- Ensuring that the Planning Screen Summary Report is forwarded to the Project Group once the project proceeds to a Corridor/Feasibility Study or Phase I Studies

- Ensuring that the Planning Screen Summary Report is forwarded to the IDOT District once the project proceeds to Programming Screen
- Assisting the Project Group in deciding the validity of the data of the Planning Screen
- Assisting the IDOT District in preparing the IDOT's MYP
- Assisting the IDOT District in collecting project data, environmental, socioeconomic, and cultural resources data for the Programming Screen (FDOT 2006)

The main responsibilities of a Designated Coordinator from an IDOT District are:

- Ensuring timely information flow between staff who participate in the Integrated IDOT-MPO-NEPA Planning Process and staff who maintain the needed information within the IDOT District
- Ensuring timely exchange of project information between MPOs and the IDOT District in cooperation with appropriate staff
- Assisting MPOs in preparing the MPO's Long-Range Transportation Plan (LRTP)
- Assisting MPOs in collecting project data, environmental, socioeconomic, and cultural resources data for the Planning Screen
- Assisting the IDOT District in collecting project data, environmental, socioeconomic, and cultural resources data for the Programming Screen
- Maintaining a schedule for Interagency Advisory Group's (described in Section G.1.4.4) review of the standard GIS analyses results during the Programming Screen
- Verifying that all inputs from the Interagency Advisory Group (described in Section G.1.4.4) have been received by the IDOT District within the specified review period during the Programming Screen
- Monitoring the commentary from Interagency Advisory Group and conducting personal communication to clarify issues or respond to questions during the Programming Screen
- Communicating the commentary from the Interagency Advisory Group to the appropriate staff and ensuring that the Interagency Advisory Group receives responses from the appropriate staff as the project advances during the Programming Screen
- Identifying actions that are necessary to advance the project based on the relevant commentary from the Interagency Advisory Group during the Programming Screen
- Uploading and updating the project data during the Programming Screen
- Assisting the IDOT District in developing the Programming Screen Summary Report in cooperation with Environmental Coordinators
- Ensuring that the Programming Screen Summary Report is forwarded to the Project Group once the project proceeds to a Corridor/Feasibility Study or Phase I Studies
- Assisting the Project Group in deciding the validity of the data of the Programming Screen

G.1.4.3 Dedicated Staff (Environmental Coordinators) at Resource Agencies

A dedicated staff member should be designated at each Resource Agency to act as an Environmental Coordinator and be responsible for cooperating and coordinating with IDOT/Districts and MPOs during the Integrated IDOT-MPO-NEPA Planning Process. The major responsibilities of an Environmental Coordinator are:

- Ensuring timely exchange of information between the Resource Agency and MPOs as well as between the Resource Agency and IDOT Districts in cooperation with appropriate staff
- Providing feedback on potential environmental issues during the preparation of the LRTP
- Maintaining a schedule for Interagency Advisory Group's (described in Section G.1.4.4) review of the standard GIS analyses results during the Planning Screen
- Maintaining a schedule for Interagency Advisory Group's (described in Section G.1.4.4) review of the standard GIS analyses results during the Programming Screen
- Assisting MPOs in collecting environmental and cultural resources data for the Planning Screen
- Assisting IDOT Districts in collecting environmental and cultural resources data for the Programming Screen
- Assisting MPOs in developing the Planning Screen Summary Report
- Assisting IDOT Districts in developing the Programming Screen Summary Report
- Assisting Project Groups in deciding the validity of the information of the Planning Screen
- Assisting Project Groups in deciding the validity of the information of the Programming Screen
- Assisting Project Groups in evaluating reasonable corridors during Corridor/Feasibility Study
- Assisting Project Groups in identifying reasonable alternatives during Phase I Studies
- Assisting Project Groups in developing avoidance, minimization, and/or mitigation measures
- Providing guidance and technical support for specific environmental issues during the Integrated IDOT-MPO-NEPA Planning Process (FDOT 2006)

G.1.4.4 Interagency Advisory Group

In order to support early and continuous involvement and coordination, an Interagency Advisory Group for the Integrated IDOT-MPO-NEPA Planning Process should be established for each of the nine IDOT Districts. The Interagency Advisory Group should consist of representatives from IDOT Districts, MPOs, Resource Agencies, IDOT Central Office, and FHWA. The Designated Coordinators from MPOs and IDOT Districts and Environmental Coordinators from Resource Agencies could also serve as the Interagency Advisory Group representatives, if necessary. A representative could also serve on more than one Interagency Advisory Group.

These representatives are responsible for coordinating reviews and communicating to support the Integrated IDOT-MPO-NEPA Planning Process on behalf of their agencies. The Interagency Advisory Group reviews proposed transportation projects to identify potential issues, provides guidance for addressing these issues, assists in future studies, and provides information about the environmental, socioeconomic, and cultural resources. Unlike Designated Coordinators from MPOs and IDOT Districts and Environmental Coordinators, who are responsible for the implementation and coordination of the entire Integrated IDOT-MPO-NEPA Planning Process, the major responsibilities of the Interagency Advisory Group are fulfilled during the Planning Screen and Programming Screen, and are summarized in Table 1 (FDOT 2006).

After the Planning Screen and Programming Screen, the Interagency Advisory Group continues to support the Integrated IDOT-MPO-NEPA Process by providing input and technical assistance for any environmental studies they recommend during the Programming Screen. During Phase I Studies, the

Project Group should develop environmental studies (such as noise and air quality study, water quality study, and wetlands study) to address the particular issues raised by the Interagency Advisory Group. The Interagency Advisory Group should review and accept these environmental studies before the Project Group can summarize them in the study reports.

Table 1. A Comparison of Interagency Advisory Group Responsibilities During Planning Screen and Programming Screen

Interagency Advisory Group Responsibilities	Planning Screen	Programming Screen
Review and comment on the standard GIS analyses results conducted during the Planning Screen and Programming Screen	Yes	Yes
Evaluate and comment on known resource presence within the project area	Yes	No
Evaluate and comment on potential project effects on resources	No	Yes
Review other ancillary documents intended to support project review	Yes	Yes
Identify information gaps or data needed to support further evaluation	Yes	Yes
Recommend environmental studies (such as noise and air quality study, water quality study, and wetlands study) in support of focused project delivery	No	Yes
Identify and document anticipated permits that may be needed during the Integrated IDOT-MPO-NEPA Process	No	Yes
Assist IDOT and FHWA in determining the NEPA action of the project	No	Yes
Assist the IDOT District in developing an outline of the Purpose and Need for project development	No	Yes

G.1.4.5 Memorandums of Understanding (MOUs) and Programmatic Agreements (PAs)

Memorandums of understanding (MOUs) and/or Programmatic Agreements (PAs) are signed between IDOT, MPOs, and Resource Agencies for supporting early and continuous involvement and coordination with regards to the integrated process. The MOUs should outline how the Integrated IDOT-MPO-NEPA Planning Process would involve the respective agencies and ensure continuous agency participation. The MOUs should also provide agreement on which agencies require access to project and resource data in the Common Database for providing input into the integrated process.

G.1.4.6 Training and Outreach

It is important for the agencies participating in the Integrated IDOT-MPO-NEPA Planning Process to have a good understanding of one another's roles and responsibilities to support better

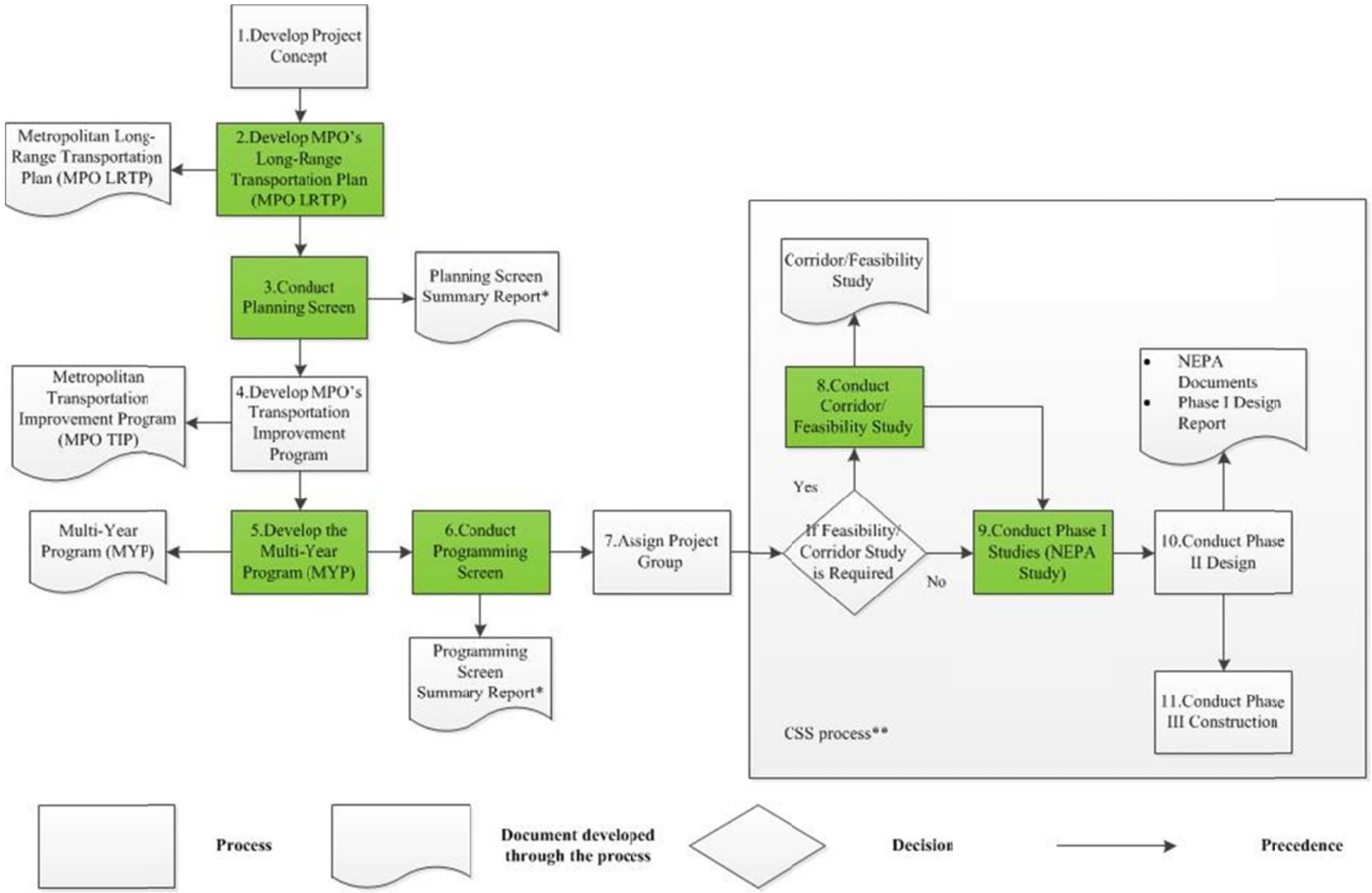
coordination, process management, flow of data, management of expectations, etc., across agencies. IDOT Central Office should coordinate with other agencies to implement the following training/outreach practices:

- Providing staff (especially Designated Coordinators from MPOs and IDOT Districts and Environmental Coordinators) at IDOT, MPOs, and Resource Agencies with a common understanding of one another's roles and responsibilities through webinars and/or workshops
- Providing Interagency Advisory Group Members with a common understanding of one another's roles and responsibilities through regular group meetings

It is recommended that these training and outreach practices be conducted initially face-to-face, and later through regular webinars.

G.1.5 Integrated IDOT-MPO-NEPA Planning Subprocesses

Two types of integration practices are recommended: (1) a set of collaboration-oriented integration practices (as discussed in Section G.1.4) and (2) a set of process-oriented integration practices (i.e., a set of subprocesses to foster integrated planning, which are thereafter called Integrated IDOT-MPO-NEPA subprocesses). Figure 2 shows a flow chart that summarizes the proposed subprocesses and their interactions, where the added or changed subprocesses (i.e., where a subprocess is added or elements of a subprocess are changed, in comparison to existing processes) are highlighted in green. Table 2 shows the inputs, outputs, and actors of each subprocess.



* The Planning Screen Summary Report and the Programming Screen Summary Report should be forwarded to the Project Group and stored in the Common Database.
** The Context Sensitive Solution (CSS) process is initiated after the Project Group is assigned and continues until the end of Phase III.

Figure 2. Integrated IDOT-MPO-NEPA Planning Subprocesses

Table 2a. Inputs, Outputs, and Actors (Responsible Agencies and Other Actors) of Each Subprocess of the Integrated IDOT-MPO-NEPA Process, Part 1

Subprocess	Inputs	Outputs	Responsible Agencies	Other Actors
Develop project concept	• Transportation need	• Project concept	• Local planning agencies • MPO • IDOT District • IDOT Central Office	• NA
Develop MPO's Long-Range Transportation Plan (LRTP)	• Project concepts • Project prioritization criteria	• LRTP	• MPO • IDOT District • IDOT Central Office	• Designated Coordinator from MPO • Designated Coordinator from IDOT District • Environmental Coordinators
Conduct Planning Screen	• Project, environmental, socioeconomic, and cultural data • Standardized criteria and metrics • Agency feedback	• Planning Screen Summary Report	• MPO • IDOT District • Resource Agencies	• Designated Coordinator from MPO • Designated Coordinator from IDOT District • Environmental Coordinators • Interagency Advisory Group
Develop Multi-Year Program (MYP)	• Project concepts • Project prioritization criteria	• MYP	• IDOT District • IDOT Central Office • MPOs	• Designated Coordinator from MPO • Designated Coordinator from IDOT District
Conduct Programming Screen	• Project, environmental, socioeconomic, and cultural data • Standardized criteria and metrics • Agency feedback	• Programming Screen Summary Report	• IDOT District • MPO • Resource Agencies	• Designated Coordinator from MPO • Designated Coordinator from IDOT District • Environmental Coordinators • Interagency Advisory Group
Assign Project Group	N/A	• Project Group	• IDOT District • IDOT Central Office	• NA

Table 2b. Inputs, Outputs, and Actors (Responsible Agencies and Other Actors) of Each Subprocess of the Integrated IDOT-MPO-NEPA Process, Part 2

Subprocess	Inputs	Outputs	Responsible Agencies	Other Actors
Conduct Corridor/ Feasibility Study	• Purpose and Need • Planning Screen Summary Report • Programming Screen Summary Report • Project, environmental, cultural, and socioeconomic data • Agency feedback • Public feedback	• Corridor/ Feasibility Study report	• Project Group • IDOT District • IDOT Central Office • MPO • Resource Agencies • Consultants • General public	• Designated Coordinator from MPO • Designated Coordinator from IDOT District • Environmental Coordinators • Interagency Advisory Group
Conduct Phase I Studies (NEPA study)	• Purpose and Need • Planning Screen Summary Report • Programming Screen Summary Report • Corridor/Feasibility Study report • Project, environmental, cultural, and socioeconomic data • Agency feedback • Public feedback	• Phase I Studies plans and reports • NEPA documents	• Project Group • IDOT District • IDOT Central Office • FHWA • Resource Agencies • Consultants • General public	• Designated Coordinator from MPO • Designated Coordinator from IDOT District • Environmental Coordinators • Interagency Advisory Group
Conduct Phase II Design	• Phase I Studies reports • Project, environmental, cultural, and socioeconomic data	• Final design plans and reports	• Design squad • IDOT District • IDOT Central Office	• NA
Conduct Phase III Construction	• Final design plans and reports • Labors, materials, funds, and management	• Completed highway project	• Contractor(s) • IDOT District • IDOT Central Office	• NA

G.1.5.1 Develop Project Concepts

Projects originate from project concepts, which can come from different sources, including local planning agencies or MPOs, IDOT Districts, a bureau in the Central Office, or other sources targeting a special need or a statewide need. The development of a project proposal typically involves, but not restricted to the following activities:

- Establishing that there is, in fact, a need for the project;
- Making a preliminary determination of the project scope of work;
- Reviewing any available data and records;
- Conducting an initial evaluation of right-of-way, utility, and environmental impacts and the likely level of environmental evaluation;
- Developing a rough, preliminary cost estimate;
- Determining a proposed schedule;
- Developing a set of preliminary drawings/plans. (IDOT 2010)

G.1.5.2 Develop MPO's Long-Range Transportation Plan (LRTP)

In this step, IDOT and local planning agencies submit project concepts for consideration in the MPO's LRTP. As limited budgets require MPOs to spend available resources more wisely, a project prioritization process is necessary to choose appropriate projects. Project concepts submitted are then reviewed, evaluated, and ranked. The projects involve major transportation investments, improvements or enhancements will be included in the MPO's LRTP. *The MPO should coordinate with the IDOT District (through the Designated Coordinator from the IDOT District), and should also solicit the feedback of Resource Agencies (through the Environmental Coordinators) on potential environmental issues during the preparation of the LRTP.*

G.1.5.3 Conduct Planning Screen

Once the project is included in the MPO's LRTP, the MPO—in cooperation with the Designated Coordinator from the MPO, Designated Coordinator from the IDOT District, Environmental Coordinators, and Interagency Advisory Group—should conduct a Planning Screen, using a GIS-based tool, for analyzing the potential environmental, socioeconomic, and cultural effects of the proposed project.

The following is a descriptive summary of the main features of the Planning Screen:

- Conducting an environmental screening of priority projects, using a GIS-based tool, once they have been included in the MPO's LRTP
- Engaging Resource Agencies in environmentally screening priority projects during the Planning Screen
- Establishing and using standardized environmental criteria and metrics for environmentally assessing projects during the Planning Screen
- Informing Phase I consultants, IDOT in-house staff, and Resource Agencies involved in the NEPA process of the results of the Planning Screen
- Uploading and storing the data and results of the Planning Screen in a Common Database

The process for conducting the Planning Screen consists of four main steps, per following subsections.

G.1.5.3.1 Data Collection

The collection and organization of project data, environmental, socioeconomic, and cultural resources data is the basis for conducting the Planning Screen of proposed projects. The recommend lists of each type of data are shown below:

- Project description: project location, project type, project scope, project estimated duration, project estimated cost, and project written description
- Environmental resources: agricultural lands, air quality, natural resources, water resources and aquatic habitats, groundwater, floodplains, wetlands, and special lands
- Socioeconomic resources: population and demographics, employment characteristics, land use, public services/facilities, and communities
- Cultural resources: archaeological sites, historic sites, and historic districts and buildings (FDOT 2006; IDOT 2010)

To facilitate data collection, the MPO can make use of the public GIS datasets for the State of Illinois. These public GIS datasets are summarized in Table 3. The MPO should also coordinate with the Designated Coordinator from the IDOT District and Environmental Coordinators, if/as necessary, to gather the data and information needed for the Planning Screen.

The Designated Coordinator from the MPO should create an entry of the project in the Common Database, and upload the collected data (data about project description, environmental resources, socioeconomic resources, and cultural resources) into the Common Database. The Designated Coordinator should upload the following metadata (data about the data): type of data, source of data, time associated with the data.

Table 3. Public GIS Datasets for the State of Illinois (UIS 2013)

Public Datasets	URL
Illinois Geospatial Data Clearinghouse	http://www.isgs.uiuc.edu/nsdihome/
Illinois Climate Network Data	http://www.sws.uiuc.edu/warm/cdflist.asp?typ=a
Invasive Plant Species in Illinois Forests	http://dnr.state.il.us/orep/ctap/invasive/
U.S. Fish and Wildlife Service	http://www.fws.gov/gis/data/national/index.html
City of Chicago GIS	http://www.cityofchicago.org/city/en/depts/doit/provdrs/gis.html .html
Chicago Police Department Citizen Law Enforcement Analysis and Reporting (CLEARMAP)	http://gis.chicagopolice.org/
The University of Chicago GIS Data	http://www.lib.uchicago.edu/e/su/maps/chigis.html
Illinois Rivers Decision Support System	http://ilrdss.sws.uiuc.edu/links/maps.asp
Illinois Department of Transportation: T2 GIS Data	http://gis.dot.illinois.gov/gist2/
Illinois County GIS Links	http://www.gis2gps.com/GIS/illcounties/illcounties.html

G.1.5.3.2 Standard GIS Analyses

Once the project, environmental, socioeconomic, and cultural data have been collected, the MPO should perform the standard GIS analyses, which compare the location of the project with locations of the environmental, socioeconomic, or cultural resources through quantifying resources within the area of the project (FDOT 2006). These standard GIS analyses should be conducted

following the established standardized criteria and metrics (described in Appendix 1). Examples of such standard GIS analyses include computing the acreage of wetlands and the number of known historical and archaeological sites within the project area, quantifying demographic information within defined community boundaries, etc. The types of standard GIS analyses depend on the availability of data collected in the previous step, and the type of tool to conduct the GIS analyses. The recommended tool to conduct the standard GIS analysis is a Common Database using ArcGIS.

G.1.5.3.3 Evaluation of Known Resource Presence

After the MPO conducts the standard GIS analyses, the Designated Coordinator from the MPO should upload the results into the Common Database and submit the results to the Interagency Advisory Group for review and comments. Once receiving the GIS analyses results, the Interagency Advisory Group should evaluate the known resource presence based on the standard GIS analyses results. The evaluation includes performing the following tasks for each proposed project (FDOT 2006):

- Reviewing and commenting on the standard GIS analyses results conducted during the Planning Screen
- Evaluating the known resource presence within the project area based on the standard GIS analyses results
- Providing information about the resource status and potential resource issues or other key data that affect the project area
- Identifying information gaps or data needed to support further evaluation (FDOT 2006)

The Designated Coordinator from the MPO and Environmental Coordinators are responsible for maintaining a schedule for Interagency Advisory Group responses and the Designated Coordinator from the MPO is also responsible for verifying that all inputs from the Interagency Advisory Group have been received by the MPO within the specified review period.

G.1.5.3.4 Planning Screen Summary Report

The Planning Summary Report summarizes the preliminary recommendations to assist planners to more effectively balance land use decisions and transportation investment with environmental, socioeconomic, and cultural resource considerations. After the Interagency Advisory Group finishes the evaluation of the proposed project, the MPO (in consultation with the Designated Coordinator from the MPO and Environmental Coordinators) is responsible for developing the Planning Screen Summary Report based on the input from the Interagency Advisory Group. The Planning Screen Summary Report should include the following contents:

- Project description
- Project location map
- GIS mapping depicting environmental, socioeconomic, and cultural resources
- GIS mapping depicting project relationship to resources
- Interagency Advisory Group comments and recommendations on resources
- Responses to the Interagency Advisory Group comments and recommendations

Once the MPO completes the Planning Screen Summary Report, the Designated Coordinator from the MPO should upload the report into the Common Database, and forward the summary report to the corresponding IDOT District when the project proceeds to Programming Screen and to the Project Group when the project proceeds to Corridor/Feasibility Study or Phase I Studies.

G.1.5.4 Develop Transportation Improvement Program (TIP)

Before the project gets included in the IDOT's MYP, it should first be included in the MPO's TIP. The MPO's TIP includes the most immediate implementation priorities of transportation projects. It covers a minimum 3-year period and should be updated at least every 2 years.

G.1.5.5 Develop Multi-Year Program (MYP)

In order for the projects to get funded and implemented, project concepts are submitted to IDOT Districts for review and comment. The Districts should further refine the scope, cost, and schedule accordingly, and forward the refined project concepts to the IDOT Office of Planning and Programming. Based on a statewide assessment of highway improvement needs and available funds, the IDOT Office of Planning and Programming will select candidate projects and develop the IDOT's proposed MYP. This will establish an individual project as an active project for further development. IDOT Districts should coordinate with MPOs (through the Designated Coordinators from MPOs) during the preparation of the MYP.

G.1.5.6 Conduct Programming Screen

Once priority projects have been included in the IDOT's MYP, the IDOT District—in cooperation with Designated Coordinator from the IDOT District, Designated Coordinator from the MPO, Environmental Coordinators, and Interagency Advisory Group—should conduct the Programming Screen, using a GIS-based tool, for analyzing the potential environmental, socioeconomic, and cultural effects of a priority project. If a project was evaluated during a Planning Screen, then the IDOT District, Designated Coordinator from the IDOT District, Designated Coordinator from the MPO, Environmental Coordinators, and Interagency Advisory Group will update the Planning Screen results based on newly available data during the Programming Screen. For projects have not been screened, they will be evaluated for the first time during the Programing Screen.

The following is a descriptive summary of the main features of the Programming Screen:

- Conducting an environmental screening of priority projects, at the District level and using a GIS-based tool, once they have been included in the IDOT's MYP.
- Engaging Resource Agencies in environmentally screening priority projects during the Programming Screen.
- Establishing and using standardized environmental criteria and metrics for environmentally assessing projects during the Programming Screen.
- Informing Phase I consultants, IDOT in-house staff, and Resource Agencies involved in the NEPA process of the results of the Programming Screen.
- Uploading and storing the data and results of the Programing Screen in a Common Database.

<u>G.1.5.6.1 Data Collection</u>

The IDOT District should collect project data, environmental, socioeconomic, and cultural resources data for a newly screened project or update these data if the project has been evaluated in a previous Planning Screen. The recommend lists of each type of data are shown below:

- Project description: project location, project type, project scope, project estimated duration, project estimated cost, and project written description;
- Environmental resources: agricultural lands, air quality, natural resources, water resources and aquatic habitats, groundwater, floodplains, wetlands, and special lands;

- Socioeconomic resources: population and demographics, employment characteristics, land use, public services/facilities, and communities; and
- Cultural resources: archaeological sites, historic sites, and historic districts and buildings. (FDOT 2006; IDOT 2010)

To facilitate data collection, the IDOT District can make use of the public GIS datasets for the State of Illinois. These public GIS datasets are summarized in Table 4. The IDOT District should also coordinate with the Designated Coordinator from the MPO and Environmental Coordinators, if/as necessary, to gather data for the Programming Screen. If the project is a newly screened project, the Designated Coordinator from the IDOT District should create an entry of the project in the Common Database, and upload the respective collected data (data about project description, environmental resources, socioeconomic resources, and cultural resources) into the Common Database. The Designated Coordinator should upload the types of data collected, their sources, and the time period associated with the data. If the project has been previously screened during the Planning Screen, the Designated Coordinator from the IDOT District should update the data in the Common Database, if/as applicable.

Table 4. Public GIS Datasets for the State of Illinois (UIS 2013)

Public Datasets	URL
Illinois Geospatial Data Clearinghouse	http://www.isgs.uiuc.edu/nsdihome/
Illinois Climate Network Data	http://www.sws.uiuc.edu/warm/cdflist.asp?typ=a
Invasive Plant Species in Illinois Forests	http://dnr.state.il.us/orep/ctap/invasive/
U.S. Fish and Wildlife Service	http://www.fws.gov/gis/data/national/index.html
City of Chicago GIS	http://www.cityofchicago.org/city/en/depts/doit/provdrs/gis.html .html
Chicago Police Department Citizen Law Enforcement Analysis and Reporting (CLEARMAP)	http://gis.chicagopolice.org/
The University of Chicago GIS Data	http://www.lib.uchicago.edu/e/su/maps/chigis.html
Illinois Rivers Decision Support System	http://ilrdss.sws.uiuc.edu/links/maps.asp
Illinois Department of Transportation: T2 GIS Data	http://gis.dot.illinois.gov/gist2/
Illinois County GIS Links	http://www.gis2gps.com/GIS/illcounties/illcounties.html

G.1.5.6.2 Standard GIS Analyses

Once the project, environmental, socioeconomic, and cultural data have been collected, the IDOT District should perform the standard GIS analyses, which compare the location of projects with locations of the environmental, socioeconomic, or cultural resources through quantifying resources within the area of the project (FDOT 2006). These standard GIS analyses should be conducted following the established standardized criteria and metrics (described in Appendix 1). Examples of such standard GIS analyses include computing the acreage of wetlands and the number of known historical and archaeological sites within the project area, quantifying demographic information within defined community boundaries, etc. The types of standard GIS analyses depend on the availability of data collected in the previous step, and the type of tool to conduct the GIS analyses. The recommended tool to conduct the standard GIS analysis is a Common Database using ArcGIS.

G.1.5.6.3 Evaluation of Project Effects

After the IDOT District conducts the standard GIS analyses, the Designated Coordinator from the IDOT District should upload the results into the Common Database and submit the results to the Interagency Advisory Group for evaluating the potential effects of the proposed project on environmental, social-economic, and cultural resources. The evaluation includes performing the following tasks for each proposed project:

- Reviewing and commenting on the standard GIS analyses results conducted during the Programming Screen
- Evaluating the projects for different resources based on standard GIS analyses results
- Providing recommendations including avoidance, minimization, and/or mitigation measures that could reduce project effects on at-risk resources
- Providing information about the resources present and potential resource issues or other key data that affect the project area
- Identifying information gaps or data needed to support further evaluation
- Recommending environmental studies in support of focused project delivery
- Identifying and documenting anticipated permits that may be needed during the Integrated IDOT-MPO-NEPA Process
- Assisting FHWA and IDOT in determination of the Class of Action for the NEPA process
- Assisting the IDOT District in developing an outline of the scope of work for project development

The Designated Coordinator from the IDOT District and Environmental Coordinators are responsible for maintaining a schedule for Interagency Advisory Group responses and the Designated Coordinator from the IDOT District is also responsible for verifying that all inputs from the Interagency Advisory Group have been received by the IDOT District within the specified review period.

G.1.5.6.4 Programming Screen Summary Report

The Programming Summary Report summarizes key comments, conclusions, and recommendations for potential project effects on resources. After the Interagency Advisory Group finishes the evaluation of the proposed project, the IDOT District (in consultation with Designated Coordinator from the IDOT District and Environmental Coordinators) is responsible for developing the Programming Screen Summary Report based on the input from the Interagency Advisory Group. The Programming Screen Summary Report includes the following contents:

- Project description
- Project location map
- GIS mapping depicting environmental, socioeconomic, and cultural resources
- GIS mapping depicting project relationship to resources
- Interagency Advisory Group comments, conclusions, and recommendations for potential project effects on resources
- Responses to the Interagency Advisory Group comments, conclusion, and recommendations

- Class of Action determination
- Outline of Purpose and Need

Once the IDOT District completes the Programming Screen Summary Report, the Designated Coordinator from the IDOT District should upload the report into the Common Database, and forward the Summary Report to the corresponding Project Group when the project proceeds to Corridor/Feasibility Study or Phase I Studies.

G.1.5.7 Assign Project Group

After the project is included in the IDOT's MYP, a Project Group within the district Bureau of Program Development should be assigned to initiate the Corridor/Feasibility Study or the Phase I Studies. Different number and expertise of staff should be initially assigned according to the scope and nature of the proposed project. The study group engineers should lead the project through the Phase I Studies process and should assume the following responsibilities:

- Coordinating directly with other units within IDOT
- Attending all internal meetings and field inspections
- Ensuring that the project study meets all IDOT criteria and procedures
- Reporting directly to the district Program Development Engineer on all significant project activities, problems, and developments
- Participating in the public involvement process (IDOT 2010)

G.1.5.8 Conduct Context Sensitive Solution (CSS) Process

Once the project is included in IDOT's proposed MYP and its scope has been defined, and IDOT decides that the project is to be developed using the principles of CSS, the Project Group should be informed and adopt the stakeholder involvement process for public involvement. The details about the public involvement process can be found from the CSS guidance (IDOT 2011) developed by IDOT. The Project Group should assist the district in developing a preliminary list of stakeholders and expand the list as Phase I Studies continues, if/as needed. After a preliminary list of stakeholders is compiled, the Project Group should develop a Stakeholder Involvement Plan (SIP) that identifies who the stakeholders are, how they are going to be reached, and a tentative schedule of meetings. The Project Group needs to conduct initial information meetings with stakeholders to explain the ground rules of the stakeholder involvement process, and present its vision of the transportation problem and preliminary proposed solutions. To further assure congruence between the IDOT's assessment of the problem(s) to be addressed and those recognized by the community, the Project Group should solicit stakeholders' understandings about the existing transportation problems as inputs for developing the project Purpose and Need. During the Phase I Studies, the Project Group should continue soliciting inputs from stakeholders when developing preliminary alternatives, and gathering feedback from the stakeholders when refining and eliminating alternatives. When deciding on the preferred alternative, the Project Group needs to ensure that all reasonable concerns have been addressed and all conflicts resolved. Throughout the stakeholder involvement process, the goal of the Project Group is to reach consensus on the project Purpose and Need, project scope, and design elements among all the stakeholder groups and IDOT.

G.1.5.9 Conduct Corridor/Feasibility Study

A Corridor Study is initiated to investigate all feasible corridors within a regional area as determined by the route planning process, and is typically required for a major highway project on new location of significant length and having multiple available corridors. A Feasibility Study is conducted to

evaluate whether a proposed highway improvement warrants further study. In some cases, a Corridor Study could be considered as a Feasibility Study.

The integration of Corridor/Feasibility Study and the NEPA study can be achieved in two ways: (1): “tiering” and (2) conducting Corridor/Feasibility Study in compliance with NEPA (per following sections in this Guidance Document). It is recommended that the Project Group integrates the Corridor/Feasibility Study with the NEPA study through tiering, which allows the Project Group to conduct two or more rounds or tiers of environmental review. In Tier 1, the Project Group typically prepares an EIS that analyzes all feasible corridors. In Tier 2, the Project Group prepares “one or more additional NEPA documents, which examine individual projects or sections in greater detail” (B Americas, Inc., and Perkins Coie LLP 2009). If the Project Group chooses not to do tiering, the Project Group should follow the guidance of this section to conduct the Corridor/Feasibility Study in compliance with NEPA requirements.

In order to incorporate the effort and results of the Corridor/Feasibility Study into the successive NEPA study, the Project Group should conduct the Corridor/Feasibility Study in compliance with the NEPA requirements (i.e., the Corridor/Feasibility Study should meet both the NEPA regulatory requirements and documentation requirements).

The following is a descriptive summary of the main *added* features to the Corridor/Feasibility Study preparation:

- Conducting Corridor/Feasibility Study in compliance with NEPA requirements
- Providing Phase I consultants involved in preparing Corridor/Feasibility Study with the data and results of the Planning Screen and Programming Screen

G.1.5.9.1 Meeting NEPA Regulatory Requirements

While the Project Group is responsible for developing the Corridor/Feasibility Study, *the Federal Highway Administration (FHWA) is ultimately responsible for ensuring NEPA compliance of transportation projects and therefore should make the final determination whether the results or decisions of the Corridor/Feasibility Study can be used as part of the NEPA process or not (USGPO 2004)*. As a fundamental matter, the Corridor/Feasibility Study must meet the regulatory requirements for use of a Corridor/Feasibility Study in NEPA. The NEPA regulations that the Project Group should comply with when conducting the Corridor/Feasibility Study are:

- National Environmental Policy Act of 1969 (USGPO 2006)
- 40 CFR Part 1500, CEQ Regulations for Implementing NEPA (USGPO 2012)
- 23 CFR Part 450, Statewide Transportation Planning: Metropolitan Transportation Planning (USGPO 2004)
- 23 CFR Part 771, Environmental Impact and Related Procedures (USGPO 2005)
- Appendix A to 23 CFR Part 450-Linking the Transportation Planning and NEPA processes (USGPO 2004)
- SAFETEA-LU (Public Law 109-59) Environmental Review process FHWA/FTA Final Guidance (USGPO 2007)
- FHWA Technical Advisory T 6640.8A, October 30, 1987 Guidance for Preparing and processing Environmental and Section 4(f) Documents (FHWA 1987)

G.1.5.9.2 Meeting NEPA Documentation Requirements

The Integrated IDOT-MPO-NEPA Planning Process can take considerable time and involves many individuals, agencies, and stakeholder groups. From the Corridor/Feasibility Study through the

NEPA study, there might be staff turnover, and even if there is no staff turnover, typically different staff are involved at the NEPA study stage. In these cases, the individuals instrumental to Corridor/Feasibility Study decisions can be difficult to reach and the analyses or decisions made in the Corridor/Feasibility Study are unnecessarily revisited when project-level NEPA study begins. Therefore, a good documentation that meets NEPA documentation requirements could avoid duplication of work and help the Project Group better use the Corridor/Feasibility Study to inform the NEPA study. A good documentation should at least meet the following basic requirements:

- Explaining the thought process underlying analytical conclusions and decisions, particularly when alternatives are analyzed and screened or eliminated
- Describing the information used at the Corridor/Feasibility Study stage, including what the information is, how current or complete it is, and how reliable it is over time
- Documenting the public and agency involvement activities during the Corridor/Feasibility Study process (FHWA 2011)

It is recommended that the Project Group uses the following documentation tools to ensure that the Corridor/Feasibility Study meets NEPA documentation requirements: (1) the Corridor/Feasibility Study and NEPA Linkages Questionnaire and (2) Corridor/Feasibility Study Checklist. The first tool is the Corridor/Feasibility Study and NEPA Linkages Questionnaire, which is intended to:

- Inform the Project Group about the requirements and options to consider while developing the Corridor/Feasibility Study with a goal to inform the NEPA process
- Document and share relevant Corridor/Feasibility Study information with NEPA practitioners to "build understanding about a project—both the information studied and areas that require more analysis." (FHWA 2011)

At the beginning of the Corridor/Feasibility Study, the Project Group is given the questionnaire, which contains questions that should be used as a guide throughout the Corridor/Feasibility Study process to ensure its compliance with NEPA regulatory and documentation requirements. The Project Group should answer these questions as the Corridor/Feasibility Study process proceeds. At the end of the Corridor/Feasibility Study, the Project Group completes the questionnaire, and the completed questionnaire would act as a summary of the Corridor/Feasibility Study process and ease the transition from Corridor/Feasibility Study to NEPA. If FHWA uses the questionnaire to determine whether the Corridor/Feasibility meets the NEPA requirements, the questionnaire should be included in the planning document as an executive summary, chapter, or Appendix (FHWA 2011).

A sample Corridor/Feasibility and NEPA Linkage Questionnaire, which is adapted from the Planning/Environmental Linkages Questionnaire developed by the Colorado DOT and FHWA Colorado Division Office, is included in Appendix 4.

The second tool is Corridor/Feasibility Study Checklist, which provides guidance on the development and documentation of a Corridor/Feasibility Study to ensure that it is conducted in a way that is in compliance with NEPA regulatory and documentation requirements. The checklist can be used as guidance at the beginning of the Corridor/Feasibility Study, and for confirmation at the end of the study. A sample Corridor/Feasibility Study Checklist, which is adapted from the Corridor Planning Study Checklist developed by the Montana DOT (Cambridge Systematics 2009), is included in Appendix 5.

G.1.5.10 Conduct Phase I Studies (NEPA Study)

Based on the general project concept, and the project Corridor/Feasibility Study (if applicable), the Project Group should identify preliminary alignments as the starting point of Phase I Studies. If the project Corridor/Feasibility Study has been conducted, the Project Group should review the Corridor/Feasibility Study report and examine its validity. The Project Group should assess any

changes in the project as well as environmental and socioeconomic information to determine if corridor modification should be considered.

The NEPA study should be conducted concurrently with Phase I Studies. Depending on the project impact, the NEPA study may involve either an Environmental Assessment (EA) or an Environmental Impact Statement (EIS).

The Project Group needs to consider the following factors when determining whether or not to use the Corridor/Feasibility Study in the NEPA study:

- The age, relevance, and reliability of the Corridor/Feasibility Study, its data, and its analysis
- Whether assumptions made in the Corridor/Feasibility Study are consistent with those to be used in the NEPA analysis
- Inclusion of relevant stakeholders in the Corridor/Feasibility Study process, and how well the links and distinctions between the Corridor/Feasibility Study and NEPA processes were explained
- Availability of the Corridor/Feasibility Study for review and/or incorporation into the NEPA document
- The lead agencies' intention to incorporate the Corridor/Feasibility Study to NEPA study (FHWA 2011)

If the Project Group determines to incorporate the Corridor/Feasibility Study in the NEPA study by reference, in the NEPA document they need to:

- Identify the alternatives eliminated during the Corridor/Feasibility Study, including the broad categories of alternatives eliminated by a study's definition of a general travel corridor or general modes;
- Summarize the reasons for the elimination of those alternatives; and
- Summarize the analysis and document the FHWA evaluation that supports the elimination of alternatives by referencing relevant sections of the planning study and then accurately incorporating the study into the NEPA document by reference or by appending it. (FHWA 2011)

If the Project Group determines to use the Corridor/Feasibility Study in the NEPA study, and an EIS is to be prepared, the connection between Corridor/Feasibility Study and NEPA study can be made through the NOI. To achieve linkage between Corridor/Feasibility Study and NEPA study, the NOI should refer to the relevant Corridor/Feasibility Study information that the lead agency proposes to use in NEPA, such as the Purpose and Need, or the range of alternatives studied (FHWA 2011).

The Project Group must gather and inventory engineering, environmental, socioeconomic, and cultural data on each alignment for further analysis. At this time, the Project Group is also provided with the data and the summary reports of the project's Planning Screen and Programming Screen, and with access to the Common Database.

On the basis of the project scope, location, and available data, the Project Group in cooperation with IDOT Bureau of Design and Environment (BDE) should determine if further environmental field work is necessary to further evaluate the location, nature, and/or extent of potential resource involvement. The Project Group should work closely with BDE to determine when environmental field surveys should begin to appropriately fit the surveys into the project schedule and the field season. Some environmental surveys are specific to certain times of the year. Field surveys are essential to making an informed decision. The BDE should also coordinate with Resource Agencies, if/as necessary.

Using the collected data and the field survey results, the Project Group should review and identify the project existing conditions and reduce the number of alternatives to a reasonable number that is representative of the spectrum of possible alternatives that satisfy the project Purpose and Need. The Project Group should coordinate with the Designated Coordinators and Environmental Coordinators, if/as necessary, in identifying reasonable alignments and gathering data. If the Interagency Advisory Group recommends developing environmental studies to address particular issues raised during the Programming Phase, the Project Group should submit the environmental studies to the Interagency Advisory Group for review and acceptance before summarizing it in the study report. The Project Group should also conduct a series of public involvement activities including informing and updating the public of Phase I Studies status and soliciting public input and comments. The Project Group should then plot existing/proposed topography, typical sections, plan and profile for each reasonable alignment.

After reasonable alignments have been identified and the information is plotted on the plan sheets, further in-depth analyses will be necessary to assess the capability of each alternative to accomplish the project goals cost-effectively. Once the analyses of reasonable alignments are completed, the Project Group should identify a recommended alignment considering the engineering factors; environmental, socioeconomic, and cultural impacts; and public input.

After the recommended alignment has been selected, the Project Group should prepare a number of technical reports to complete Phase I Studies:

- Preliminary Drainage Report
- Frontage Road/Service Drive and Access Road Justifications
- Grade Separation/Road Closure Analysis
- Crash Analysis Report Along Existing Route
- Transportation Management Plan (TMP) Report
- Preliminary Pavement Design Report
- Noise and Air Quality Report
- Water Quality Technical Report
- Biological Assessment or Detailed Action Report
- Geotechnical (Soils) Report (IDOT 2010)

G.1.5.11 Conduct Phase II Design

In Phase II Design, the responsibility of advancing the project should be transferred to the design squad within the IDOT District or to a consultant. The detailed guidance on conducting Phase III Design can be found in IDOT's Bureau of Design and Environment Manual (IDOT 2010).

G.1.5.12 Conduct Phase III Construction

Once the project design has been finalized, land acquisition has been completed, and a contractor is awarded, Phase III Construction is initiated. Construction may require a few months to several years depending on the complexity of the construction.

G.2 EVALUATION OF THE INTEGRATED IDOT-MPO-NEPA PLANNING PROCESS

Two categories of performance measures are used to evaluate the performance of the Integrated IDOT-MPO-NEPA Planning Process: (1) interagency coordination and communication

performance measures, and (2) project delivery performance measures. The evaluation is conducted based on the data of all projects that were conducted following the Integrated IDOT-MPO-NEPA Planning Process and completed within a certain time period.

G.2.1 Interagency Coordination and Communication Performance Measures

This category includes a set performance measures to evaluate the Integrated IDOT-MPO-NEPA Planning Process in terms of interagency coordination and communication. The quantitative and qualitative performance measures and their information sources in this category are shown in Table 5 (FDOT 2005). A set of Proposed Standards of Measure (i.e., what level of performance meets expectations, what needs improvement, and what is below expectations) is included in Appendix 3.

Table 5. Interagency Coordination and Communication Performance Measures

Performance Measures	Information Sources
The percentage of Interagency Advisory Group reviews completed within the defined review period, during the Planning Screens	Planning Screen Summary Reports
The percentage of Interagency Advisory Group reviews completed within the defined review period, during the Programming Screens	Programming Screen Summary Reports
The quality of MPO responses to the comments, inquires, and requests of information from Interagency Advisory Groups, during the Planning Screens	Survey of opinions from MPOs, IDOT Districts, Resource Agencies, and FHWA
The quality of IDOT District responses to the comments, inquires, and requests of information from Interagency Advisory Groups, during the Programming Screens	Survey of opinions from MPOs, IDOT Districts, Resource Agencies, and FHWA
The quality of Designated Coordinator responses to the inquires and requests of information from Project Groups, during the preparation of Corridor/Feasibility Studies	Survey of opinions from MPOs, IDOT Districts, Resource Agencies, and FHWA
The quality of Environmental Coordinator responses to the inquires and requests of information from Project Groups, during the preparation of Corridor/Feasibility Studies	Survey of opinions from MPOs, IDOT Districts, Resource Agencies, and FHWA
The quality of Designated Coordinator responses to the inquires and requests of information Project Groups, during the preparation of Phase I Design Studies	Survey of opinions from MPOs, IDOT Districts, Resource Agencies, and FHWA
The quality of Environmental Coordinator responses to the inquires and requests of information from Project Groups, during the preparation Phase I Design Studies	Survey of opinions from MPOs, IDOT Districts, Resource Agencies, and FHWA
The quality of MPO responses to the comments, inquires, and requests of information from Interagency Advisory Groups, during the Planning Screens	Survey of opinions from MPOs, IDOT Districts, Resource Agencies, and FHWA
The quality of Interagency Advisory Group comments, during the Planning Screens	Survey of opinions from MPOs, IDOT Districts, Resource Agencies, and FHWA
The quality of Interagency Advisory Group comments, during the Programming Screens	Survey of opinions from MPOs, IDOT Districts, Resource Agencies, and FHWA
The quality of avoidance, minimization, and mitigation measures recommended by Interagency Advisory Groups, during the Programming Screen	Survey of opinions from MPOs, IDOT Districts, Resource Agencies, and FHWA
The quality of Planning Screen Summary Reports	Survey of opinions from MPOs, IDOT Districts, Resource Agencies, and FHWA
The quality of Programming Screen Summary Reports	Survey of opinions from MPOs, IDOT Districts, Resource Agencies, and FHWA
The quality of project information in the Common Database	Survey of opinions from MPOs, IDOT Districts, Resource Agencies, and FHWA

The IDOT Central Office is responsible for gathering the data about Interagency Advisory Groups' reviews from Planning Screen Summary Reports and Programming Screen Summary Reports. The IDOT Central Office is also responsible for developing, issuing, and analyzing the surveys to gather the opinions from MPOs, IDOT Districts, Resource Agencies, and FHWA on interagency coordination and communication. The IDOT Central Office could also provide recommendations based on the analysis of the interagency coordination and communication performance measures.

G.2.3 Project Delivery Performance Measures

This category includes a set of quantitative performance measures to evaluate the Integrated IDOT-MPO-NEPA Planning Process in terms of project delivery. The quantitative measures and their information sources are shown in Table 6 (FDOT 2005). A set of Proposed Standards of Measure (i.e., what level of performance meets expectations, what needs improvement, and what is below expectations) is included in Appendix 3.

Table 6. Project Delivery Performance Measures

Performance Measures	Information Sources
The average length of Environmental Assessment (EA) processing time	Project and Program Action Information System
The average length of Environmental Impact Statement (EIS) processing time	Project and Program Action Information System
The average length of time to conduct the Planning Screen	Common Database
The percentage of projects that have completed the Planning Screen within the planned schedule	Common Database
The average length of time to conduct the Programming Screen	Common Database
The percentage of projects that have completed the Programming Screen within the planned schedule	Common Database
The average length of time to conduct the Corridor/Feasibility Study	Common Database
The percentage of projects that have completed the Corridor/Feasibility Study within the planned schedule	Common Database

The EIS and EA processing time are recorded in the FHWA's Project and Program Action Information System, and are defined as follows:

- The EIS processing time is the time between the issuance of the NOI in the Federal Register and the signing by FHWA of the project's ROD.
- The EA processing time is the time between the initiation of the project and the issuance of FONSI.

The Planning Screen, Programming Screen, and Corridor/Feasibility Study processing time should be recorded in the Common Database, and are defined as follows:

- The Planning Screen processing time is the time between the start of the data collection and the completion of the Planning Screen Summary Report.

- The Programming Screen processing time is the time between the start of the data collection and the completion of the Programming Screen Summary Report.
- The Corridor/Feasibility Study processing time is the time between the initiation of the study and the completion of the final Corridor/Feasibility Study report.

The IDOT Central Office is responsible for gathering the NEPA processing time information from FHWA's Project and Program Action Information System and the processing time information for other subprocesses from the Common Database. The IDOT Central Office is also responsible for analyzing the project delivery performance measures and providing recommendations, if/as necessary.

APPENDIX 1 STANDARDIZED CRITERIA AND METRICS

During the Planning Screen and Programming Screen, the MPO and the IDOT District are responsible for conducting the standard GIS analyses of different resources within the scope of the project area. In order to standardize the GIS analyses and make the results more comparable, standardized criteria and metrics are established and used for conducting the standard GIS analyses. The following is a summary of existing environmental criteria and metrics and their corresponding guidance references, extracted from IDOT Bureau of Design and Environmental Manual (IDOT 2010). A list of specific indicators for assessing the impacts on environmental, socioeconomic, and cultural resources is included in Appendix 2.

1.1 Environmental Resource Analyses

Environmental resource analyses should address, but are not limited to the following issues (IDOT 2010):

(1) Agricultural: Determine the agricultural land uses in the area that the project may affect including estimating the total amount of farmland and the amount of prime and important farmland to be converted to non-agricultural use because of the project. The relevant guidance references are:

- Paragraph V.G.2. of FHWA Technical Advisory T6640.8A Farmland Impacts (FHWA 1987)
- Section 26-10 Evaluations of Farmland Conversion Impacts of IDOT Bureau of Design and Environmental Manual (IDOT 2010)
- Illinois Department of Transportation's Agricultural Land Preservation Policy and Cooperative Working Agreement (Illinois General Assembly 1993)
- 505 ILCS 75/1 et seq., Illinois Farmland Preservation Act (Illinois General Assembly 1982)

(2) Air quality: Determine whether the project is located in the nonattainment area. The relevant guidance references are:

- Paragraph V.G.8. of FHWA Technical Advisory T6640.8A Air Quality Impacts (FHWA 1987)
- Section 26-11 Air Quality Conformity Documentation of IDOT Bureau of Design and Environmental Manual (IDOT 2010)

(3) Natural resources: Identify the federal and/or state endangered or threatened species, and federal or state designated lands within the scope of the project. The relevant guidance references:

- Section 26-17 Tree/Vegetation Assessments of IDOT Bureau of Design and Environmental Manual (IDOT 2010)
- Section 26-18 Invasive Species and Noxious Weeds of IDOT Bureau of Design and Environmental Manual (IDOT 2010)
- Section 26-14 Migratory Birds of IDOT Bureau of Design and Environmental Manual (IDOT 2010)
- Section 26-15 Wildlife Resources of IDOT Bureau of Design and Environmental Manual (IDOT 2010)
- Paragraph V.G.18. of FHWA Technical Advisory T6640.8A Threatened and Endangered Species (FHWA 1987)
- Section 26-9 Threatened and Endangered Species/Natural Area Impact Assessments of IDOT Bureau of Design and Environmental Manual (IDOT 2010)
- Chapter 27 Environmental Surveys of IDOT Bureau of Design and Environmental Manual (IDOT 2010)

- Section 26-9 Threatened and Endangered Species/Natural Area Impact Assessments of IDOT Bureau of Design and Environmental Manual (IDOT 2010)
- Chapter 27 Environmental Surveys of IDOT Bureau of Design and Environmental Manual (IDOT 2010)

(4) Water resources and aquatic habitats: Identify water resource cover types (e.g., riverine, lacustrine, ponds) and watershed(s) within the project area, and estimate their acreages. The relevant guidance references are:

- Paragraph V.G.10. of FHWA Technical Advisory T6640.8A Water Quality Impacts (FHWA 1987)
- Paragraph V.G.11. of FHWA Technical Advisory T6640.8A Permits (FHWA 1987)
- Paragraph V.G.13. of FHWA Technical Advisory T6640.8A Water Body Modifications and Wildlife Impacts (FHWA 1987)
- Paragraph V.G.15. of FHWA Technical Advisory T6640.8A Wild and Scenic Rivers (FHWA 1987)
- Section 26-18 Water and Aquatic Resources of IDOT Bureau of Design and Environmental Manual (IDOT 2010)
- Section 26-19 Nationwide Rivers Inventory of IDOT Bureau of Design and Environmental Manual (IDOT 2010)
- Section 26-20 Impaired Waters/TMDLs of IDOT Bureau of Design and Environmental Manual (IDOT 2010)
- Chapter 28 Environmental Permits/Certifications of IDOT Bureau of Design and Environmental Manual (IDOT 2010)

(5) Groundwater: Identify aquifers, aquifer recharge areas, groundwater class, groundwater quality, public drinking water wells, and wellhead protection zones for the project area. The relevant guidance references are:

- Section 26-21 Groundwater of IDOT Bureau of Design and Environmental Manual (IDOT 2010)

(6) Floodplains: Evaluate the 100-year floodplain within the proposed project area and identify base floodplains and floodways where applicable. The relevant guidance references are:

- Paragraph V.G. 14. of FHWA Technical Advisory T6640.8A Floodplain Impacts (FHWA 1987)
- Section 26-7 “Floodplains” of IDOT Bureau of Design and Environmental Manual (IDOT 2010)
- Chapter 28 Environmental Permits/Certifications of IDOT Bureau of Design and Environmental Manual (IDOT 2010)

(7) Wetlands: Identify the known wetlands within the proposed project area. The relevant guidance references are:

- Paragraph V.G.12 of FHWA Technical Advisory T6640.8A Wetlands Impacts (FHWA 1987)
- Section 26-8 Wetlands of IDOT Bureau of Design and Environmental Manual (IDOT 2010)
- Chapter 28 Environmental Permits/Certifications of IDOT Bureau of Design and Environmental Manual (IDOT 2010)

(8) Special lands: Identify the locations of special lands including lands that have Land and Water Conservation (LAWCON) or Open Space Lands Acquisition and Development (OSLAD) funds involved in their purchase or development within the project area. The relevant guidance references are:

- Section 26-3 Section 6(f) Conversion Request of IDOT Bureau of Design and Environmental Manual (IDOT 2010)
- Section 26-4 OSLAD Land Conversion Request of IDOT Bureau of Design and Environmental Manual (IDOT 2010)

1.2 Socioeconomic Resource Analyses

Socioeconomic resource analyses should address the following five perspectives of issues: demographic, economic, neighborhoods, public facilities/services, and local planning. The five socioeconomic resource evaluation issues and the types of effects that should be identified and analyzed for each issue are:

- Demographic issues: population, race, and family income
- Economic issues: employment and major businesses
- Neighborhoods issues: ethnic composition, population distribution, and growth characteristics
- Public facilities/services issues: churches, temples or mosques, hospitals or other medical facilities, educational issues, police and fire protection, and other emergency services
- Local planning issues: land use, residential areas, business areas, pedestrian and bicycle facilities

The relevant guidance references are:

- IDOT Community Impact Assessment Manual (IDOT 2007)
- Community Impact Assessment: A Quick Reference for Transportation (FHWA 1996)
- Paragraph V.G.1. of FHWA Technical Advisory T6640.8A Land Use Impacts (FHWA 1987)
- Paragraph V.G.3. of FHWA Technical Advisory T6640.8A Social Impacts (FHWA 1987)
- Paragraph V.G.4. of FHWA Technical Advisory T6640.8A Relocation Impacts (FHWA 1987)
- Paragraph V.G.5. of FHWA Technical Advisory T6640.8A Economic Impacts (FHWA 1987)
- CEQ Q&A, Question 23 Conflicts Between Proposed Action and Land Use Plans (CEQ 2006)

1.3 Cultural Resource Analyses

The cultural resource analyses require the identification of the known archaeological sites, historic bridges, and historic districts and buildings. The relevant guidance references are:

- Paragraph V.G.19 of FHWA Technical Advisory T6640.8A Historic and Archaeological Preservation (FHWA 1987)
- Section 26-2 Section 4(f) Evaluations of IDOT Bureau of Design and Environmental Manual (IDOT 2010)
- Section 26-5 Historic Act Compliance Documentation of IDOT Bureau of Design and Environmental Manual (IDOT 2010)

APPENDIX 2 RECOMMENDED IMPACT INDICATORS

The recommended indicators (recommended based on the referenced sources) for assessing the impacts on the environmental, socioeconomic, and cultural resources are shown in the following list (FDOT 2006, IDOT 2010, Zhang et al. 2013, USEPA 1996).

2.1 Environmental Resource Impact Indicators

Agricultural resource indicators:

- Total amount of prime farmland within the project area
- Total amount of important farmland within project area

Air quality indicators:

- Whether the project is located in the nonattainment area designated by National Ambient Air Quality Standards (NAAQS)

Natural resource indicators:

- The sizes and types of upland plant communities within the project area
- The sizes and types of wildlife habitats within the project area
- The types of endangered or threatened species (federal or state listed) within the project area
- The sizes and types of State Designated Lands (Illinois Natural Areas, Land and Water Reserves, and Nature Preserves)

Water resource and aquatic habitat indicators:

- The sizes and types of water resources within the project area

Groundwater indicators:

- The sizes, types, and recharge area of aquifers within the project area
- The sizes and classes of groundwater within the project area
- The number of public and private drinking water wells within the project area

Floodplain indicators:

- The size of Federal Emergency Management Agency (FEMA) Flood Zone area (an area within the 100-year floodplain for which base flood elevations have been determined) within the project area

Wetland indicators:

- The sizes and types of wetlands within the project area

2.2 Socioeconomic Resource Impact Indicators

- Total land use of the project
- The population density within the project area
- The ethnic composition of the population living within the project area
- The income distribution of the population living within the project area
- The age distribution of the population living within the project area
- The number and types of transportation facilities with project area

2.3 Cultural Resource Impact Indicators

- The estimated number of archaeological sites within the project area
- The number of historic bridges designated by National Register of Historic Places (NRHP) within the project area
- The number of historic building designated by NRHP within the project area
- Whether the project is located in a historic district listed in the NRHP or designated by local ordinance

APPENDIX 3 PROPOSED STANDARDS OF MEASURE

A proposed set of standards of measure (i.e., what level of performance meets expectations, what needs improvement, and what is below expectations) is shown below. This set of standards of measure has been proposed based on the ETDM Performance Management Plan of the Florida Department of Transportation (FDOT 2005). As such, the following list includes those standards of measure for the performance measure that have been used by FDOT only.

3.1 Interagency Coordination and Communication Performance Measures

The percentage of Interagency Advisory Group reviews completed within the defined review period, during the Planning Screens:

- Meets Expectations: 100%–85% of reviews completed within review period
- Needs Improvement: 84%–75% of reviews completed within review period
- Below Expectations: Less than 75% of reviews completed within review period

The percentage of Interagency Advisory Group reviews completed within the defined review period, during the Programming Screens:

- Meets Expectations: 100%–85% of reviews completed within review period
- Needs Improvement: 84%–75% of reviews completed within review period
- Below Expectations: Less than 75% of reviews completed within review period

The quality of MPO responses to the comments, inquires, and requests of information from Interagency Advisory Groups, during the Planning Screens:

- Meets Expectations: MPO responses are very useful or useful
- Needs Improvement: MPO responses are neutral or somewhat useful
- Below Expectations: MPO responses are not useful

The quality of IDOT District responses to the comments, inquires, and requests of information from Interagency Advisory Groups, during the Programming Screens:

- Meets Expectations: IDOT District responses are very useful or useful
- Needs Improvement: IDOT District responses are neutral or somewhat useful
- Below Expectations: IDOT District responses are not useful

The quality of Interagency Advisory Group comments, during the Planning Screen

- Meets Expectations: Interagency Advisory Group comments are very useful or useful
- Needs Improvement: Interagency Advisory Group comments are neutral or somewhat useful
- Below Expectations: Interagency Advisory Group comments are not useful

The quality of Interagency Advisory Group comments, during the Programming Screen:

- Meets Expectations: Interagency Advisory Group comments are very useful or useful
- Needs Improvement: Interagency Advisory Group comments are neutral or somewhat useful
- Below Expectations: Interagency Advisory Group comments are not useful

The quality of avoidance, minimization, and mitigation measures recommended by Interagency Advisory Groups, during the Programming Screen:

- Meets Expectations: avoidance, minimization, and mitigation measures are very useful or useful

- Needs Improvement: avoidance, minimization, and mitigation measures are neutral or somewhat useful
- Below Expectations: avoidance, minimization, and mitigation measures are not useful

The quality of project data in the Common Database:

- Meets Expectations: project data in the are very useful or useful
- Needs Improvement: project data in the Common Database are neutral or somewhat useful
- Below Expectations: project data in the Common Database are not useful

3.2 Project Delivery Performance Measures

The average Environmental Assessment (EA) processing time:

- Meets Expectations: average processing time is less than 30 months
- Needs Improvement: average processing time is between 31 and 36 months
- Below Expectations: average processing time is greater than 36 months

The average Environmental Impact Statement (EIS) processing time:

- Meets Expectations: average processing time is less than 36 months
- Needs Improvement: average processing time is between 36 and 54 months
- Below Expectations: average processing time is greater than 54 months

The percentage of projects that have completed the Planning Screen within the planned schedule:

- Meets Expectations: 100%–85% of projects have completed the Planning Screen within the planned schedule
- Needs Improvement: 84%–75% of projects have completed the Planning Screen within the planned schedule
- Below Expectations: Less than 75% of projects have completed the Planning Screen within the planned schedule

The percentage of projects that have completed the Programming Screen within the planned schedule:

- Meets Expectations: 100%–85% of projects have completed the Programming Screen within the planned schedule
- Needs Improvement: 84%–75% of projects have completed the Programming Screen within the planned schedule
- Below Expectations: Less than 75% of projects have completed the Programming Screen within the planned schedule

APPENDIX 4 CORRIDOR/FEASIBILITY AND NEPA LINKAGES QUESTIONNAIRE

1. Background

a. Who is the sponsor of the PEL study? (state DOT, local agency, other)
b. What is the name of the PEL study document and other identifying project information (e.g., subaccount or STIP numbers, long-range plan or transportation improvement program years)?
c. Who was included on the study team (Name and title of agency representatives, consultants, etc.)?
d. Provide a description of the existing transportation facility within the corridor, including project limits, modes, functional classification, number of lanes, shoulder width, access control and type of surrounding environment (urban vs. rural, residential vs. commercial, etc.)?
e. Provide a brief chronology of the planning activities (PEL study) including the year(s) the studies were completed.
f. Are there recent, current or near future planning studies or projects in the vicinity? What is the relationship of this project to those studies/projects?

2. Methodology Used

a. What was the scope of the PEL study and the reason for completing it?
b. Did you use NEPA-like language? Why or why not?
c. What were the actual terms used and how did you define them? (Provide examples or list)
d. How do you see these terms being used in NEPA documents?
e. What were the key steps and coordination points in the PEL decision-making process? Who were the decision-makers and who else participated in those key steps? For example, for the corridor vision, the decision was made by state DOT and the local agency, with buy-in from FHWA, the USACE, and USFWS and other resource/regulatory agencies.

How should the PEL information be presented in NEPA?

3. Agency Coordination

a. Provide a synopsis of coordination with federal, tribal, state and local environmental, regulatory and Resource Agencies. Describe their level of participation and how you coordinated with them.
b. What transportation agencies (e.g., for adjacent jurisdictions) did you coordinate with or were involved during the PEL study?
c. What steps will need to be taken with each agency during NEPA scoping?

4. Public Coordination

a. Provide a synopsis of your coordination efforts with the public and stakeholders.

5. Purpose and Need for the PEL Study

a. What was the scope of the PEL study and the reason for completing it?
b. Provide the Purpose and Need statement, or the corridor vision and transportation goals and objectives to realize that vision.

c. What steps will need to be taken during the NEPA process to make this a project-level Purpose and Need statement?

6. Range of Alternatives

Planning teams need to be cautious during the alternative screen process; alternative screening should focus on Purpose and Need/corridor vision, fatal flaw analysis and possibly mode selection. This may help minimize problems during discussions with Resource Agencies. Alternatives that have fatal flaws or do not meet the Purpose and Need/corridor vision will not be considered reasonable alternatives, even if they reduce impacts to a particular resource. Detail the range of alternatives considered, screening criteria and screening process, including:

a. What types of alternatives were looked at? (Provide a one or two sentence summary and reference document.)
b. For alternative(s) that were screened out, briefly summarize the reasons for eliminating the alternative(s). (During the initial screenings, this generally will focus on fatal flaws)
c. Which alternatives should be brought forward into NEPA and why?
d. Did the public, stakeholders, and agencies have an opportunity to comment during this process?
e. Were there unresolved issues with the public, stakeholders and/or agencies?

7. Planning Assumptions and Analytical Methods

a. What is the forecast year used in the PEL study?
b. What method was used for forecasting traffic volumes?
c. Are the planning assumptions and the corridor vision/Purpose and Need statement consistent with each other and with the Long-Range Transportation Plan? Are the assumptions still valid?
d. What were the future year policy and/or data assumptions used in the transportation planning process related to land use, economic development, transportation costs and network expansion?

8. Environmental resources (wetlands, cultural, etc.) reviewed. For each resource or group of resources reviewed, provide the following:

a. In the PEL study, at what level of detail was the resource reviewed and what was the method of review?
b. Is this resource present in the area and what is the existing environmental condition for this resource?
c. What are the issues that need to be considered during NEPA, including potential resource impacts and potential mitigation requirements (if known)?
d. How will the planning data provided need to be supplemented during NEPA?

9. List environmental resources you are aware of that were not reviewed in the PEL study and why? Indicate whether or not they will need to be reviewed in NEPA and explain why.

10. Were cumulative impacts considered in the PEL study? If yes, provide the information or reference where the analysis can be found.

11. Describe any mitigation strategies discussed at the planning level that should be analyzed during NEPA.

12. What needs to be done during NEPA to make information from the PEL study available to the agencies and the public? Are there PEL study products that can be used or provided to agencies or the public during the NEPA scoping process?

13. Are there any other issues a future project team should be aware of?

a. Examples: controversy, utility problems, access or ROW issues, encroachments into ROW, problematic land owners and/or groups, contact information for stakeholders, special or unique resources in the area, etc.

APPENDIX 5 CORRIDOR/FEASIBILITY STUDY CHECKLIST

Introduction

Introductory information documenting:

- Identification of the corridor planning study candidate
- Reason(s) to conduct corridor planning
- study area definition (include map of the corridor boundaries and study area)
- General goals, objectives, and purpose of the study
- Members of the corridor planning team

Documentation and information from development of the work plan can be incorporated here.

Background

Background information on the corridor documenting:

- A summary of the review and documentation of previously developed information on conditions in the study corridor. Information gathered as part of the corridor setting document may be used here.
- A summary of existing conditions in the study corridor. Detailed information, analysis, and results may be documented with technical reports and data.

Identified Corridor Needs and Issues

Explain identified corridor needs and issues, documenting:

- Previously developed corridor needs, issues, and goals
- Known corridor needs and issues
- Input from public involvement and resource and other agency consultation

Information presented here can be used in developing the draft statement of Purpose and Need.

Public Involvement and Resource and Other Agency Consultation

Provide documentation of how and when the public involvement and resource and other agency consultation was conducted and completed. This can be documented as a summary of what occurred with detailed information included in an appendix or a technical report. Information from the Public Involvement Plan may be used here. Documentation should include the following:

- Public involvement
    - How many and when public meeting were held
    - Newsletters, press releases, presentation materials, sign-in sheets, minutes, and summary of discussion and comments at public meetings
    - Documentation of any decision, findings, or commitments at public meetings
- Resource and other agency consultation

- How and when resource and other agency consultation was conducted including coordination methods and contacts
- The federal, tribal, state, and local agencies included
- Documentation of information gathered including attendance, issues, responses, decisions, resolutions, commitments, and concurrences

Technical Reports and Data

Reports developed and used as part of the corridor planning process should be summarized in the Corridor Study report and included in the appendix. The types of reports should include: existing and projected conditions including social and economic, an environmental scan, design standards, corridor geometrics, traffic data, accident information, travel demand forecasting, and economic data. Other information may be included depending on the type of study. Information from the existing and projected conditions report may be used here. At a minimum, reports/data should include:

- Where information was derived, summary of analytical methods used, forecast information assumptions, projections, and data collection dates (maps, visual aids, and other graphics should be included for clarification)
- Description of findings, recommendations, and conclusions from previous studies and reports
    - Sources for review and documentation include existing planning or engineering studies, land use plans, projects both initiated and complete, and other local planning documents appropriate for this study area. The report should reference sources of information.
    - Information gathered may include transportation system conditions (roadway and multi-modal operating conditions, safety, etc.), as well as land use, social, economic, and environmental conditions in the corridor.
    - Any conclusions, recommendations, or action brought forward from previously developed documents or projects and considered for inclusion in the corridor planning study.
- Disclosure of missing or unavailable information

Analysis Methods and Findings

This is for information from the technical repots/data and public/agency involvement to develop and eliminate alternatives. The section should include:

- Description of alternatives and/or options developed
- Description of selection or screening criteria (this may include cost)
- Alternatives and/or options advanced and eliminated with a summary of the rationale
- Description of possible phasing of alternatives of interim solutions

Funding

Description of funding scenarios, include information documenting:

- Planning level cost estimates or projections for alternatives and/or options, both short and long-term and phases;

- Concerns with funding of alternative(s) due to excessive cost
- Sources and types of funding available including partnership opportunities with other agencies, private developers or other groups
- Funding challenges and possible solutions

Summary/Recommendations

A summary of the corridor planning process; the identified need, issues, and goals; the recommended alternatives and/or options to be carried forward; the draft statement of Purpose and Need; and an implementation strategy for moving to the project development stage should be documented.

Project Development

Documentation of the elements listed here should be developed and included in the Corridor Study report or as a stand-alone report. These elements bring the corridor planning study into project development. The following elements should be considered and documented:

- Describe which alternatives should be carried forward into a NEPA/MEPA study
- Include any recommended coordination or steps to be taken with resource and other agencies during the NEPA/MEPA process
- Identify resource issues that need additional consideration and evaluation
- Describe any additional data or gaps in data that must be supplemented during the NEPA/MEPA process
- Describe any resources that were not reviewed and why
- Forward any possible mitigation strategies (include avoidance)
- Describe any other issues that should be brought to the attention of the future project team

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APPENDIX H INTERIM REPORTS

The following pages contain the four interim reports prepared in connection with this project.

ICT Project R27-132
Incorporating NEPA into IDOT and MPO Planning Processes

Internal Interim Report #1

(DRAFT)

Submitted by: **(Include Name and Address of Organization)**	**Department of Civil and Environmental Engineering** **University of Illinois at Urbana-Champaign** 205 N. Mathews Ave. Urbana, IL 61801
Investigator(s):	**Nora El-Gohary**, Assistant Professor **Liang Liu**, Associate Professor **Khaled El-Rayes**, Professor **Xuan Lv**, Graduate Student
Corresponding Investigator Name:	Nora El-Gohary
Corresponding Investigator Phone:	(217) 333-6620
Corresponding Investigator Fax:	(217) 265-8039
Corresponding Investigator Email:	gohary@illinois.edu
For Period:	July 01, 2012-January 31, 2013
Status:	**DRAFT**

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1 INTRODUCTION

1.1 Project Motivation

The Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) issued a joint guidance on the environmental review process required by Section 6002 of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) (http://www.fhwa.dot.gov/hep/section6002/intro.htm) (FHWA 2012a). The SAFETEA-LU provides new guidance on how to integrate transportation planning and the National Environmental Policy Act (NEPA) processes. However, the guidance does not provide well-defined and 'detailed enough' strategies or guidelines on how to integrate NEPA into transportation planning processes. Special emphasis is required on large-scale highway and transit projects, since they tend to have a lengthy and costly NEPA process. There is a need to identify clear institutional strategies and guidelines on how to incorporate NEPA into the IDOT Planning Process and the Metropolitan Planning Organization (MPO) Planning Process for large transit and highway projects, in a manner to ensure, both, compliance with the NEPA and efficiency of project development in terms of time and cost.

1.2 Project Objectives

The main goal of this project is to assist IDOT in defining the guidelines on how to incorporate the National Environmental Policy Act (NEPA) into the current IDOT Planning Process and Metropolitan Planning Organization (MPO) Planning Process for large-scale highway and transit projects. Consultation will be sought from representatives of relevant state and federal regulatory and Resource Agencies, such as MPOs, FHWA Illinois Division, U.S. Environmental Protection Agency (EPA), U.S. Fish and Wildlife Service, and U.S. Army Corps of Engineers. The research team will seek guidance from the Technical Review Panel (TRP) for defining the list of relevant agencies and their representatives for consultation.

To accomplish this goal, the objectives of this project are to:

1) Provide a comprehensive review of literature of practices linking/integrating NEPA and transportation planning processes in other states.
2) Gather feedback from inter and intra-departmental staff involved in the IDOT Planning Process, the MPO Planning Process, and the NEPA Process to evaluate the existing practices of linking/integrating NEPA and transportation planning processes – for large highway and projects.
3) Evaluate the impact of these practices on the project development process.
4) Identify (based on 1, 2, and 3 above) the key elements/practices that are needed to successfully incorporate NEPA into the IDOT Planning Process and the MPO Planning Process for large-scale highway and transit projects.

5) Develop a guidance document on how to incorporate NEPA into the IDOT Planning Process and the MPO Planning Process for large-scale highway and transit projects, including how to conduct alternative analysis and how to develop mitigating strategies/measures; and provide recommendations on how to evaluate the integrated process. It is noted that the implementation of this guidance by MPOs will be voluntary.

1.3 Project Tasks and Deliverables

To accomplish the research objectives, the proposed methodology breaks down the research work into seven major tasks that will lead to five project deliverables, as shown in Fig. 1.

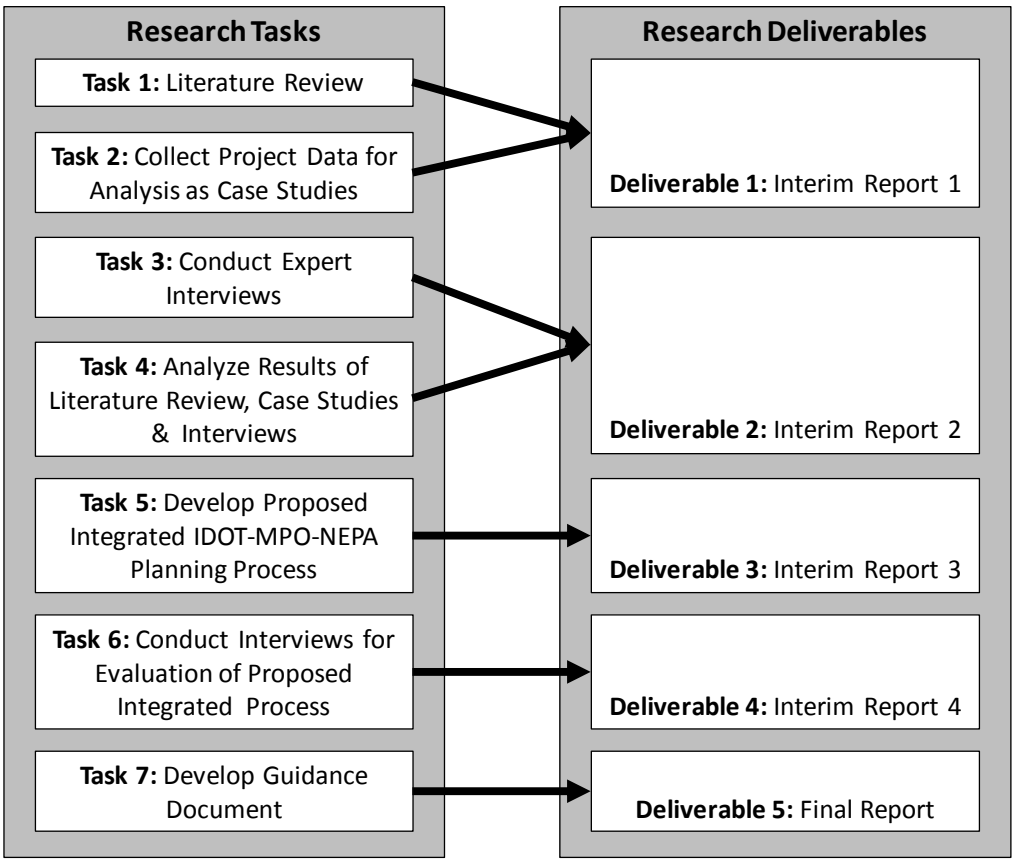

Figure 1 – Proposed Research Methodology

1.4 Scope and Organization of this Report

The research team worked on the first two tasks. Both tasks started on July 01, 2012 and were completed on January 31, 2013. This interim report intends to summarize the results from Task 1 and Task 2, i.e. summarize the literature review and the case studies. The following is a brief description of Task 1 and Task 2. Accordingly, the rest of the report is organized into two main sections: literature review and case studies.

Task 1 – Literature Review: The research team worked on the first task which focused on conducting a comprehensive literature review of: 1) IDOT Planning Process, 2) MPO Planning Process, 3) NEPA Process, and 4) existing documents/studies that describe and/or evaluate the current practices of linking/integrating NEPA and transportation planning processes in other states. The research team reviewed relevant information resources including NEPA regulations, the FHWA's Planning and Environment Linkages (PEL) initiative and its related publications, and reports by the National Cooperative Highway Research Program (NCHRP). The research team placed special emphasis on states that have recently developed guidance on how to integrate transportation planning and NEPA processes, such as the Florida Department of Transportation (FDOT). The research team reviewed existing documents/studies that describe the current practices of linking/integrating NEPA and transportation planning processes from four states: Colorado, Florida, Indiana, and Maine.

Task 2 – Collect Project Data for Analysis as Case Studies: The research team worked on the second task which focused on collecting project data for further analysis as case studies (as part of Task 4). In Task 1, the research team identified the efforts of integrating transportation planning and NEPA processes in four states (Colorado, Florida, Indiana, and Maine). In this Task, to gain a deeper understanding of the integrated process and its impact on the project development process, the research team collected project data from these four states, in addition to Illinois. In total, the research team collected data about 20 projects. The research team collected the following data for each case study project: 1) Coordination data: the number of leading agencies and cooperating agencies, the number of inter-agency meetings, and the number of document preparers; 2) Process performance data: the preparation and processing times for Environmental Assessments (EAs) and Environmental Impact Statements (EISs), the number of alternatives that were analyzed in detail, and the EPA's rating of draft EISs; 3) Public involvement data: the length of public comment period once the EA/EIS is published, and the number of public hearings and meetings; and 4) Other related project data: including the geographical location of the project, the size and type of the project, the cost of the project, and the level of environmental impact of the project.

2 LITERATURE REVIEW (TASK 1)

2.1 IDOT Transportation Planning Process

IDOT transportation planning is a cooperative process conducted by IDOT. It is intended to foster cooperation with and involvement by MPOs, transit operators, and transportation system users and stakeholders, such as the traveling public, businesses, community groups, environmental organizations, freight operators, and the general public (FHWA and FTA 2007; IDOT 2006). The process is designed to promote the development, management, and operation of a safe and efficient surface transportation system that will satisfy the mobility needs of both people and freight, and stimulate economic growth and development within and between states and metropolitan areas, while minimizing fuel consumption and air pollution generated by transportation systems (USGPO 2011a). The transportation planning process can be described in terms of a number of steps (as per Fig. 2), as summarized in the following sub-sections. The following description is based on federal guidance provided by the FHWA and FTA (2007), SAFETEA-LU (USGPO 2007), and state guidance provided by amended Civil Administrative Code of Illinois (Illinois General Assembly 2010), as well as statewide planning documents from IDOT (IDOT 2007a ; IDOT 2007b; IDOT 2007c; IDOT 2007d; IDOT 2012).

2.1.1 Formulate Regional Policies and Goals

The first step in IDOT transportation planning is to formulate the policies and goals that would guide the whole planning process. The policies and goals, which provide a framework for IDOT's planning efforts, are the result of a combination of federal guidance, regional knowledge, IDOT's vision, as well as the involvement of MPOs, local governments, private transportation providers, and the general public. This step shall be guided by the eight SAFETEA-LU planning factors outlined by the federal government for statewide transportation planning (USGPO 2007):

1) "Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency;
2) Increase the safety of the transportation system for motorized and non-motorized users;
3) Increase the security of the transportation system for motorized and non-motorized users;
4) Increase the accessibility and mobility of people and for freight;
5) Protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and State and local planned growth and economic development patterns;
6) Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight;
7) Promote efficient system management and operation; and
8) Emphasize the preservation of the existing transportation system".

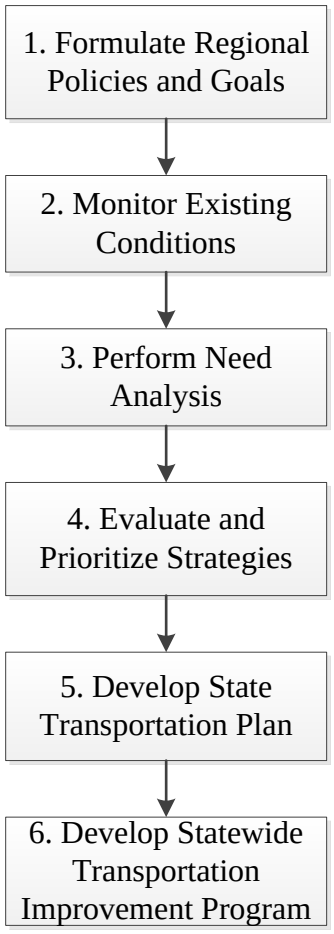

Figure 2 – IDOT Planning Process Flow Chart

Based on the above-mentioned planning factors, a set of planning policies are defined. For example, in Illinois State Transportation Plan 2007, the following policies have been developed (IDOT 2007a):

1) "Target transportation investments to support business and employment growth, and enhance the Illinois economy;
2) Provide a transportation system that offers a high degree of mobility, accessibility, reliability, and options;
3) Preserve and manage the existing transportation system;
4) Reduce congestion, optimize service and operation efficiency, develop intermodal connections, and utilize transportation technology advances
5) Ensure a compatible interface of the transportation system with environmental, social, and energy considerations;
6) Follow a comprehensive transportation planning process and promote coordination among public and private sector transportation system;
7) Promote stable funding for the public component of the transportation system;

8) Improve transportation system;
9) Provide a secure transportation infrastructure in conjunction with the office of homeland security- Illinois terrorism task force."

For each policy, IDOT defines a set of associated goals. For example, for the first policy established in Illinois Transportation Plan 2007, IDOT has developed the following associated "economy enhancement goals" to accomplish over the next 20 years (IDOT 2007a):

1) "Support cost-effective transportation investments, including new facilities and expansion of existing systems, that enhance the state's comparative economic advantage or expand or retain economic development and employment;
2) Work with private transportation providers to improve and maintain transportation services to Illinois industries and business firms;
3) Identify international and interstate transportation needs and market opportunities along with access needs to water ports, airports, major freight distribution corridors, and intermodal transfer facilities;
4) Support transportation investments that attract intrastate, interstate, and international tourism to Illinois and provide access to recreational, cultural, historic, and scenic facilities;
5) Maintain a continuing dialogue with representatives of local government and all sectors of the Illinois economy to ensure that economic development opportunities and needs are identified;
6) Improve access to jobs for employees across the state."

2.1.2 Monitor Existing Conditions

Before IDOT applies the policies and goals as the guidance for transportation planning, a comprehensive condition analysis of the existing transportation system should be carried out in order to better identify its improvement needs.

As the fifth most populous State in the U.S., Illinois has established a multi-modal transportation system that consists of various public and private-owned and operated facilities (IDOT 2007a). These facilitates include airports, bicycles and pedestrians trails, freight railroads and intermodal facilities, highways, intercity passenger services, public transit, and waterways and ports. In this step, IDOT gathers accident, travel, and operation data for each type of facility using existing information systems or established procedures for data collection such as surveys (IDOT 2007b). For example, for highway facilities, IDOT can: 1) collect basic travel information including number of accidents, ridership, average travel time and speed, and average vehicles miles of travel etc. using its regional data archiving system, and 2) conduct a Condition Rating Survey (CRS) which provides an assessment of the pavement condition of the state highway system to collect data about pavement conditions (IDOT 2007b).

In addition to satisfying their mobility needs, the Illinois transportation system is also affecting the economic well-being, quality of life, safety, and environment of all Illinois residents. Thus, during transportation planning, IDOT shall evaluate how the Illinois transportation system impacts the State's economy and the quality of its residents' life to better select which improvement strategies to adopt (IDOT 2007b).

In Illinois State Transportation Plan 2007, IDOT describes how the Illinois transportation system helps shape Illinois' diversified economy by assessing the system's influences on the States' manufacturing, agriculture, and tourism and conventions. In the report, IDOT also demonstrates how the Illinois transportation system consolidates Illinois' position in the global and national economies (IDOT 2007a).

As an important aspect of people's quality of life, the environment is always a consideration in IDOT's transportation planning process. Since Chicago and Metro-East St. Louis regions are identified as "non-attainment" areas by the National Ambient Air Quality Standard, the Illinois transportation system's impacts on air quality are particularly addressed in the IDOT transportation planning process (IDOT 2007b).

2.1.3 Perform Need Analysis

In order to guide the development of a transportation system "that is in balance with current and future travel needs" (IDOT 2007a), IDOT needs to evaluate the ability of the Illinois transportation system to satisfy the current and future travel needs with safety services. The evaluation process requires not only an examination of the physical conditions of existing facilities, but also a comprehensive analysis of travel needs based on current travel data and future trends.

There are two main types of trends that influence future travel needs: social and economic trends, and transportation trends. Social and economic trends include but are not limited to trends in the following areas: population, employment, aging population and persons with disabilities, suburban growth, and rural accessibility. Transportation trends are represented by person travel trends, freight travel trends, and trends in different transportation facilities (IDOT 2007b).

Based on inspection of existing facilities and analysis of current and future travel needs, if IDOT finds any problem with the current transportation system's ability to meet travel needs, corresponding transportation improvement strategies will be proposed. For example, through the Condition Rating Survey described in the previous step, IDOT can identify which highway segments need immediate improvement to maintain normal operation. One improvement strategy is to develop corresponding highway improvement programs to repair the deterioration of segments (IDOT 2007c). In addition, IDOT also plans to implement more innovative techniques

such as Superpave (Superior Performing Asphalt Pavement) to deal with highway aging (IDOT 2007c).

2.1.4 Evaluate and Prioritize Strategies

"One of the key factors affecting long-range plans for the Illinois transportation system is the reality that needs outpacing available funds" (IDOT 2007d). As limited transportation funds cannot cover all improvement strategies, an evaluation and prioritization process is necessary to select appropriate improvement strategies for the available funding program.

IDOT first assesses the cost of different improvement strategies and their impact on the Illinois transportation system and the natural environment (FHWA and FTA 2007). To further decide which strategies to fund, IDOT identifies available funding for different capital improvement programs and ranks improvement strategies from high to low priority.

IDOT's transportation funding comes from both federal and state resources, and is restricted by appropriations approved by the General Assembly and signed by the Governor (IDOT 2007d). These funds are distributed to the different transportation modal systems: highways, public transit, railway, and aeronautics. To determine the available funding for a capital improvement program for a specific mode, IDOT first estimates the annual revenue based on the funding from state and federal sources, and then deducts cost for existing obligations and non-capital spending (IDOT 2007d).

After the size of the capital improvement program has been determined, IDOT decides which transportation improvement strategies should be funded based on not only the cost but also how well these strategies will address regional priorities. To facilitate decision-making, IDOT has identified different priorities for the different transportation modal systems. For example, for the highway system, the priorities recognized by IDOT are (IDOT 2007c):

1) "System Maintenance, including reconstruction, resurfacing/widening, and safety projects;
2) Bridge Maintenance, including bridge replacement and rehabilitation projects and minor structure repairs;
3) Congestion Mitigation, including major projects that reduce traffic congestion in urban areas and other improvements that improve traffic flow; and
4) System Expansion, including new roads and other projects that increase access and promote economic development".

2.1.5 Develop State Transportation Plan

IDOT has the responsibility to develop and update a State transportation plan, which "identifies issues and key needs that will guide state DOT in their investment decision for the state transportation system over the forthcoming twenty year" (FHWA and FTA 2007).

According to the amended Civil Administrative Code of Illinois, the State Transportation Plan shall be updated at least every 5 years and shall demonstrate the following elements (Illinois General Assembly 2010):

1) Goals and objectives that guide the "development and maintenance of a comprehensive and balanced statewide transportation system";
2) Performance measures that evaluates the "adequacy, efficiency, and coordination of transportation services and implementation of goals and objectives";
3) Criteria for choosing projects "for inclusion in the annual and multiyear transportation improvement programs"; "Transportation policies that reflect the relationship of transportation to land use, economic development, the environment, air quality, and energy consumption transportation policies that reflect the relationship of transportation to land use, economic development, the environment, air quality, and energy consumption; foster the efficient movement of people and goods; coordinate modes of transportation; coordinate planning among federal agencies, State agencies, transportation agencies, and local governments; and address the safety and equity of transportation services"; and
4) Strategies for improvement, regional priorities, and opportunities and challenges for achieving the goals and objectives.

According to SAFTEA-LU, the State Transportation Plan shall be developed "in consultation with State, tribal, and local agencies responsible for land use management, natural resources, environmental protection, conservation, and historic preservation" (USGPO 2007) and with sufficient participation by interested parties. To fulfill this obligation, IDOT developed a Stakeholder Involvement Plan for the preparation of the 2012 State Transportation Plan update. In this plan, IDOT identified a list of stakeholders to consult with, scheduled public information meetings and meetings with interested stakeholders on a special topic, and discussed the use of other methods to inform the general public, such as project websites, newsletters, and media outreach (IDOT 2012).

2.1.6 Develop Statewide Transportation Improvement Program (STIP)

Based on amended Civil Administrative Code of Illinois, IDOT has the responsibility to develop statewide annual and multi-year transportation improvement programs for all surface transportation modes including highways, public transit, rail, and aeronautics. Statewide annual and multi-year transportation improvement programs provide "an annual and 5-year schedule of all surface transportation improvement projects and their anticipated costs" (Illinois General Assembly 2010). IDOT is also responsible for selecting projects, nominated or recommended by IDOT itself, "counties, municipalities, mass transit districts, other local governments, MPOs, and members of the General Assembly" (Illinois General Assembly 2010) for inclusion in the annual and 5-year Statewide Transportation Improvement Program (STIP). IDOT could apply the

criteria and priorities identified in the State Transportation Plan during project selection. One fundamental criterion is that the project shall help the system approach the established goals and objectives from the State Transportation Plan (Illinois General Assembly 2010).

Every year, IDOT shall develop a multi-year highway improvement program, which together with IDOT's five-year public transportation improvement program and the Transportation Improvement Programs (TIPs) developed by MPOs in Illinois serves as the basis for the Statewide Transportation Improvement Program (STIP) (IDOT 2011). The STIP is a requirement for every State by SAFTEA-LU, and it shall contain an annual list of projects that covers a period of 4 years and be updated at least every 4 years (USGPO 2007).

In terms of choosing projects for inclusion, the following requirements have been established by SAFETEA-LU (USGPO 2007):

1) The projects shall be located within the boundary of the State;
2) The project shall have anticipated full funding within the time period of the program;
3) The project shall be consistent with statewide transportation plan and metropolitan transportation plan if within an urbanized area;
4) The project shall be "in conformance with the applicable State air quality implementation plan developed under the Clean Air Act" if carried out in a nonattainment area;
5) The project shall "reflect the priorities for programming and expenditures of funds"; and
6) All regional significant transportation projects which require an action by the FHWA or the FTA shall be included.

All of the projects in the current Transportation Improvement Programs (TIPs) developed by the MPOs shall be incorporated in the STIP, and other projects will be identified from the current annual and multi-year highway improvement programs and the five-year public transportation improvement program (IDOT 2011). Once completed, the Illinois STIP will be submitted to FHWA and FTA for their approval.

2.2 MPO Transportation Planning Process

A Metropolitan transportation organization (MPO) is a transportation policy-making organization that consists of representatives from local, state, federal government and regional transportation providers for a metropolitan planning area (IDOT 2006; IDOT 2007e). Federal law requires that "each urbanized area with a population of more than 50,000 individuals" (USGPO 2011a) shall designate an MPO to carry out transportation planning for the area. Every metropolitan area with a population of over 200,000 individuals shall be identified as a transportation management area (TMA) (USGPO 2011b). An MPO is responsible for conducting a comprehensive and continuing transportation planning for its metropolitan area. For MPOs in TMAs, they shall also develop "a congestion management system (CMS) that identifies actions and strategies to reduce congestion and increase mobility" (USGPO2011b).

In Illinois, there are 14 MPOs responsible for coordinating transportation planning within their areas of jurisdiction (IDOT 2007e). Similar to IDOT transportation planning, MPO transportation planning is also a collaborative process aimed at promoting cooperation with IDOT and transit operators, and involvement of all interested parties and stakeholders including business groups, regional communities, environmental organizations, and general public (IDOT 2006). The MPO planning process can be summarized in terms of a number of steps (as per Fig. 3), as described in the following sub-sections. The following description is based on federal guidance provided by the FHWA and FTA (2007), SAFETEA-LU (USGPO 2007), and state guidance provided by IDOT (IDOT 2006: IDOT 2007e) and MPO's planning studies from CUUATS (CUUATS 2007) and CMAP (CMAP 2008a; CMAP 2008b; CMAP 2008c; CMAP 2008d; CMAP 2008e; CMAP 2008f; CMPA 2008g; CMAP 2009a; CMAP 2009b; CMAP 2010a; CMAP 2010b; CMAP 2010c; CMAP 2010c; CMAP 2012a; CMAP 2012b).

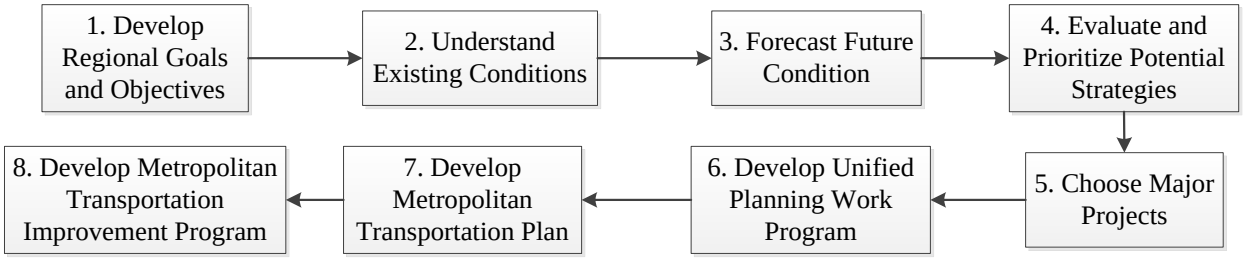

Figure 3 – MPO Planning Process Flow Chart

2.2.1 Develop Regional Goals and Objectives

The first step in the MPO planning process is to build regional goals as the guidance for all the planning efforts regardless of time frame and individual projects. The regional goals describe what the MPO wants to achieve in terms of desired environment, economy, social system, and governance structures in the long-term future as well as the means by which to achieve them (CUUATS 2007). Regional goals are direct reflections of the overarching needs of the metropolitan area and require proper public involvement. For example, in developing the GO TO 2040 comprehensive regional plan, Chicago Metropolitan Planning Agency (CMAP), together with local stakeholders, identified the following goals under four themes: "Livable Communities, Human Capital, Efficient Governance, and Regional Mobility" (CMAP 2010e):

1) "Achieve Greater Livability through Land Use and Housing;
2) Manage and Conserve Water and Energy Resources;
3) Expand and Improve Parks and Open Space;
4) Promote Sustainable Local Food;
5) Improve Education and Workforce Development;
6) Support Economic Innovation;
7) Reform State and Local Tax Policy;

8) Improve Access to Information;
9) Pursue Coordinated Investments;
10) Invest Strategically in Transportation;
11) Increase Commitment to Public Transit;
12) Create a More Efficient Freight Network."

Based on the established goals, an MPO shall also establish measurable objectives and a set of performance measures related to each objective to help organize the implementation of regional goals into manageable parts. The objectives and performance measures shall be consistent with regional goals and easily understood by the public and decision maker (CUUATS 2007). An example of a goal, its related objectives and measures of effectiveness – established by CMAP – is shown in Table 1 (CMAP 2010e).

Table 1: Sample of Goal, Objectives, and Measures of Performance

Goal	Increase Commitment to Public Transit	
Objectives	Increase transit ridership per weekday to 2.3 million by 2015	Increase the percentage of residents and jobs with access to transit to 69% and 77%, respectively, by 2015
	Increase transit ridership per weekday to 4.0 million by 2040	Increase the percentage of residents and jobs with access to transit to 75% and 80%, respectively, by 2040
Measures of Performance	Transit ridership per weekday	Population and jobs with access to transit

2.2.2 Understand Existing Conditions

As part of the planning process, MPOs will conduct extensive studies of existing land use, environmental, and transportation, social, and economic conditions throughout the urbanized area to depict where the region stands in measurable terms. These studies involve collecting current data which is the basis for MPOs to conduct future projections and recommend improvement strategies (CUUATS 2007). These studies include topics from fundamental issues like population to regional priorities like air quality and sustainability.

The 14 MPOs in Illinois all face different transportation issues during the planning process; their regional priorities are different as a result. For example, in Champaign-Urbana Metropolitan Area, there is an increasing demand for public transit and other non-auto modes due to the growing number of college-age students (IDOT 2007e), while in Chicago Metropolitan Area (CMA) air quality is of at most priority since CMA is in "nonattainment" with federal standards (CMAP 2008d).

2.2.3 Forecast Future Conditions

In order to make positive changes towards the regional goals, an MPO shall not only examine where the community stands in the current situation, but also where the community would like to be in the long-term future. MPOs typically rely on the findings from existing conditions and regional goals, and use best planning practices and prediction models to forecast future conditions.

For different metropolitan areas, MPOs identify different existing conditions and establish different regional goals, and the future conditions forecasted will contain different elements. For example, for the Chicago Metropolitan Area, CMAP describes future conditions in terms of the region's quality of life, natural environment, social systems, economy, and governance (CMAP 2010a).

Despite the differences in different metropolitan areas, all MPOs shall include travel demand in their future condition analysis. There are two main techniques that MPOs use for developing estimates of future travel demands. The first is historical trend analysis, which plots historical demand levels over time and then extrapolating the trend into the future (FTA 2001). The other is building travel demand model, which analyzes the key factors influencing transportation demand. For example, CMAP has developed a travel demand model to forecast transportation system use under a variety of socio-economic conditions and public policy scenarios (CMAP 2010d).

2.2.4 Evaluate and Prioritize Strategies

Based on the understanding of existing conditions and the description of future conditions, an MPO shall also propose and evaluate different planning strategies to achieve regional goals. In order to understand which planning strategies are most effective at meeting regional goals, an MPO will collaborate with other regional planning agencies to conduct a series of comprehensive studies on a variety of social, economic, environmental, and transportation issues, which have fundamental impact in shaping the future of the metropolitan area. For example, during the development of GO TO 2040 regional transportation plan, CMAP has researched and recommended planning strategies on land use, environment, transportation, housing, economic development, and human and community development in cooperation with agencies like the Chicago Community Trust (CMAP 2012b). To further select which improvement strategies to implement in the Metropolitan Transportation Plan (MTP), the MPO can apply the performance measures described in the previous section to evaluate and prioritize different strategies. For example, when choosing the appropriate strategies for inclusion in the GO TO 2040 comprehensive regional plan, CMAP created a number of alternative future scenarios which adopted a different combination of planning strategies, and evaluated the

implications of these scenarios on the planning region through a series of regional indicators (CMAP 2009b).

2.2.5 Choose Major Projects

Based on the selected strategies, transportation agencies shall propose major capital projects to improve the efficiency and effectiveness of the current transportation system. Major capital projects are those large projects which significantly affect the capacity of the regional transportation system. These projects include extensions or additional lanes on the interstate system, entirely new expressways, or similar changes to the passenger rail system. As limited budgets requires MPOs to spend available resources more wisely, a project prioritization process is necessary to choose appropriate major projects.

In order for the major projects in the region to be eligible to receive federal transportation funds, the projects have to be fiscally constrained and not to exceed pollution emission limits. In terms of pollution limit, the emission from the proposed projects plus the emissions from the existing transportation system should not exceed the regional air quality budget, or limits set by Illinois EPA.

In addition, proposed major capital projects "would also be evaluated against measures assessing how well they perform in light of regional indicators, as well as planning factors established by the USDOT" (CMAP 2010b).

2.2.6 Develop Unified Planning Work Program

The Unified Planning Work Program (UPWP) establishes the framework of MPO planning process by providing a list of the transportation tasks and studies to be conducted by the MPO staff or a member agency in one to two years (FHWA and FTA 2007). Although UPWP varies from one MPO to another as a reflection of regional priorities, every UPWP shall include the following elements (IDOT 2006; IDOT 2007e):

1) The planning tasks and studies including the development of the required MPO documents (MTP, TIP, and UPWP) and other "planning and implementation studies as travel surveys, safety studies or analyses of proposed a new bus lines or roadways"
2) "All federally funded studies as well as all relevant state and local planning activities conducted without federal funds";
3) "Funding sources identified for each project";
4) The schedule of all the planning activities;
5) "The agency responsible for each task or study".

2.2.7 Develop Metropolitan Transportation Plan

In general, the Metropolitan Transportation Plan (MTP) depicts the vision of the metropolitan area, evaluates the current transportation systems as well as the proposed transportation strategies and programs. In this way, it provides guidance for transportation investment decisions for the planning area over the next 20 to 30 years. A typical MTP plan shall include (FHWA and FTA 2007):

1) "Policies, strategies, and projects for the future;
2) A systems level approach by considering roadways, transit, non-motorized transportation, and intermodal connections;
3) Projected demand for transportation services over 20 years;
4) Regional land use, development, housing, and employment goals and plans;
5) Cost estimates and reasonably available financial sources for operation, maintenance, and capital investments; and
6) Ways to preserve existing roads and facilities and make efficient use of the existing system."

Although it covers a long time-range, the MTP shall be prepared and updated by MPO at least every 3 years or every 5 years if the area is designated or once was designated as nonattainment. The MPO shall ensure that the MTP is consistent with the long-range State Transportation Plan developed by IDOT.

2.2.8 Develop Metropolitan Transportation Improvement Program

The metropolitan Transportation Improvement Program (TIP) reflects the region's way of allocating its limited transportation resources among the different capitals and operating needs of the region, on the basis of clear set short-term transportation priorities. The TIP covers a minimum four-year period of projects and strategies. It contains all federal supported projects. It shall get approval from both the MPO and the Governor and its update cycle shall be no longer than four years. It is incorporated directly without any change into the Statewide Transportation Improvement Plan (STIP). A financial plan to ensure all the projects included in the TIP are fiscally constraint is needed (FHWA and FTA 2007).

2.2.9 Congestion Management Process

Based on federal requirement, MPOs in metropolitan planning areas designated as TMAs shall develop and implement a congestion management process (CMP) as an integrated part of the MPO planning process (FHWA 2011). According to SAFETEA-LU, the congestion management process is "a process that provides for safe and effective integrated management and operation of the multimodal transportation system, based on a cooperatively developed and implemented metropolitan-wide strategy, of new and existing transportation facilities" (USGPO 2007). The FHWA has defined a Process Model for CMP as a guideline for implementing successful CMP in compliance with federal regulations (FHWA 2011). The Process Mode consists of the

following steps that mirrors the elements of MPO planning process in many perspectives, which provide opportunities for implementing the CMP in conjunction with, or completely integrated, with, the overall MPO planning process (FHWA 2011):

1) Develop regional objectives for congestion management: The congestion management objectives define what the regions want to accomplish in terms of congestion management. The objectives can be developed separately based on the goals articulated in the Metropolitan Transportation Plan (MTP) or as a part of the MPO planning process and incorporated directly into the MTP;
2) Define CMP network: This step defines what components of the transportation system are focused during the CMP. It requires clarification on two aspects of the system: the "geographic boundaries or area of application and the system components or network of surface transportation facilities".
3) Develop multimodal performance measures: MPOs develop performance measures as a tool to recognize congestion problems, assess system performance, and communicate this information to the public and decision-makers. Performance measures related to congestion management could be developed in parallel with other performance measures that correspond to other goals in the MPO planning process, and used to compare improvement strategies and project alternatives in the development of the MTP.
4) Collect data/monitor system performance: After the performance measures are defined, MPOs collect a large amount of data to determine the current performance of the system. The types of data that can be used in CMP include but are not limited to: traffic volume counts, speed and travel time data, archived intelligent transportation system (ITS) and operation data, other electronic traffic datasets.
5) Analyze congestion problems and needs: In this step, MPOs translate the raw data collected into meaningful measures of performance and identify the specific locations and the sources of the congestion problems.
6) Identify and assess strategies: Based on the data and analysis, MPOs identify and evaluate appropriate congestion mitigation strategies to effectively manage congestion and achieve congestion management objectives. This step is similar to the development and prioritization of other types of improvement strategies, and has the potential to be incorporated in the MPO planning process.
7) Program and implement strategies: This step involves the implementation of CMP strategies on three levels: regional, corridor, and project. The strategy implementation at the regional level provides an opportunity to integrate CMP into MPO planning process when MPOs use the CMP in criteria for prioritizing projects for inclusion in MTP and metropolitan Transportation Improvement Program (TIP).
8) Evaluate strategy effectiveness: To ensure that the implemented strategies are effective in achieving the congestion management objectives, and make corresponding changes accordingly, MPOs conduct performance evaluation after the strategies have been implemented. The findings of the evaluation should be reflected in the future MTP and

TIP so that strategies that show improvement in congested conditions are encouraged for further implementation, while strategies that show negative feedbacks are downplayed in similar situations.

2.3 NEPA Process

This section is not intended to provide a detailed, complete description of the NEPA process, but to summarize the process and its main elements. For a detailed, complete description of the NEPA process, please refer to the following sources/documents:

1) A Citizen's Guide to the NEPA by the Council on Environmental Quality (CEQ) (CEQ 2007)
2) A Guide to Transportation Decision Making by the U.S. Department of Transportation (U.S.DOT), FHWA, and FTA (USDOT et at. 2007e)
3) Bureau of design and environment manual by IDOT (IDOT 2010)
4) Code of Federal Regulation, Title 23 Highways, Part 771 Environmental impact and related procedures by the U.S. Government Printing Office (U.S.GPO) (USGPO 2012a)
5) Code of Federal Regulation, Title 40 Protection of Environment, Volume 34, Chapter V Council on Environmental Quality, Part 1500-1508 by U.S.GPO USGPO 2012b)
6) Director's Order # 12: Conservation Planning, Environmental Impact Analysis, and Decision-Making by the U.S. National Park Service (U.S.NPS) (USNPS 2007)
7) NEPA's Forty Most Asked Questions by CEQ (CEQ 2006)
8) United States Code, Title 42 Sec. 4331 Congressional declaration of national environmental policy by U.S.GPO (USGPO 2006)
9) National Environmental Policy Act (NEPA) Basic Information by U.S.EPA (USEPA 2012)

2.3.1 Background

Project construction has profound influences on the interrelations of all components of the natural environment. After recognizing the "importance of restoring and maintaining environmental quality to the overall welfare and development of man" (USGPO 2012b), the Congress enacted the National Environmental Policy Act (NEPA) on January 1, 1970 as the fundamental environmental policy in the U.S. According to NEPA, it is the federal government's responsibility to create and maintain an environment where man and nature can live in productive harmony by all practicable means (USGPO 2012b). Section 102 of NEPA further requires federal agencies to "incorporate environmental considerations in their planning and decision-making through a systematic interdisciplinary approach" (USEPA 2012). All federal agencies are required to undertake a detailed analysis of potential environmental impacts and alternatives to any activity or project receiving Federal funding or requiring other Federal approval.

2.3.2 Summary of the NEPA Process

References: 40 CFR 1501.5 "Lead agencies" (USGPO 2012b)
40 CFR 1501.6 "Cooperating agencies" (USGPO 2012b)
40 CFR 1508.21 "NEPA process" (USGPO 2012b)
A Citizen's Guide to NEPA "Navigating NEPA Process" (CEQ 2007)
A Guide to Transportation Decision Making (USDOT et al. 2007e)

In order to facilitate the implementation of NEPA's policies, the act established the Council on Environmental Quality (CEQ), which promulgated a series of regulations (USGPO 2012b) to address procedural and administrative issues during NEPA implementation. The procedure established in the regulations, commonly known as "NEPA process", applies to every executive branch of the federal government (CEQ 2007). The NEPA process "requires stakeholders to strike a delicate balance between many important factors, including mobility needs, economic prosperity, health and environmental protection, community and neighborhood preservation, and quality of life for present and future generations" (USDOT et al. 2007e). The NEPA process can be summarized, as per Fig. 4 (adapted from CEQ 2007).

The NEPA process starts with a federal agency proposing an action to address a need. If the action is proposed by or involves more than one federal agency, a lead agency shall be designated to supervise the preparation of the environmental analysis. Some complex proposals may contain several related actions which are functionally-dependent or in geographical proximity with each other. If these proposals involve more than one federal agency, a lead agency shall also be designated to take the responsibility for compliance with NEPA. In addition to the lead agency, if other federal, state, tribal, or local agencies have NEPA responsibilities, they can form a joint lead agency with at least one federal agency (USGPO 2012b).

Upon designation, the lead agency shall invite other federal, state, tribal or local agencies as cooperating agencies. Any federal, state, tribal or local agency that has jurisdiction by law and special expertise with respect to any environmental issue can be a cooperating agency. To facilitate the management of the NEPA process, a cooperating agency shall fulfill the following responsibilities (USGPO 2012b):

1) Coordinating with the lead agency in the NEPA process at the earliest possible time;
2) Participating in the scoping process to identify significant issues and determine their scope;
3) Developing information and preparing environmental analyses including parts of the environmental impact statement on which the cooperating agency has special expertise;
4) Providing available staff in support of the lead agency's interdisciplinary capacity; and
5) Funding the major activities and analyses to the most possible extend.

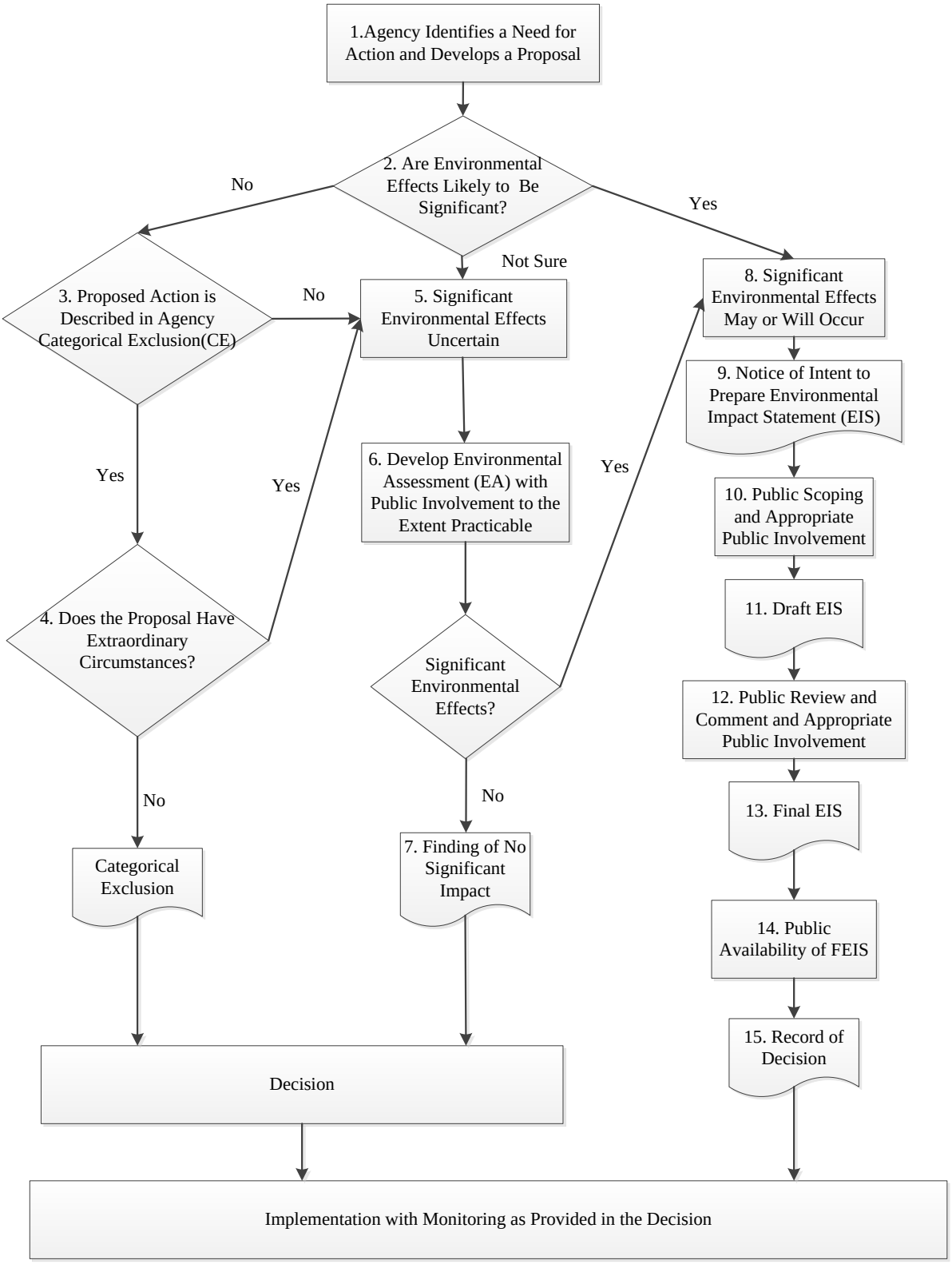

Figure 4 – The NEPA Process Flow Chart

After the lead agency and cooperating agencies have been determined, the NEPA process proceeds to the initial analytical stage where the agency will decide whether to pursue the path of a Categorical Exclusion (CE), an Environmental Assessment (EA), or an Environmental Impact Statement (EIS) (CEQ 2007).

Typically, a federal agency would have developed its own lists of actions eligible for CEs, EA, and EIS specific to its operations based on an agency's experience with NEPA implementation. For example, the FHWA has defined three classes of actions which require different levels of NEPA documentations and provided some examples for each class in 23 CFR 771 (USGPO 2012a). The three classes of actions are "Class I" actions which require EIS, "Class II" actions which require CE and "Class III" actions which require EA (USGPO 2012a).

If the environmental impact of the proposed action is likely to be significant and the proposed action is in the agency's CE list, the lead agency will pursue a CE process. In CE process, the lead agency prepares a CE after confirming that the proposed action will not involve any extraordinary circumstance.

If there are uncertainties about whether the proposed action will have significant environmental impact or the proposed action involves extraordinary circumstance, the lead agency shall follow the EA process where a comprehensive environment assessment will be conducted. In case no significant environmental impact has been found, a Finding of No Significant Impact (FONSI) will be issued. If significant environmental effects have been detected for the proposed action during the EA process, the lead agency will have to trigger an EIS process.

If in any stage of the NEPA process, significant environment impact is identified for the proposed action, the lead agency will follow the EIS process where an EIS will be prepared. The EIS process starts with a Notice of Intent (NOI) to prepare the EIS. After public scoping and appropriate public involvement, a draft EIS will be developed to receive review and comment from Resource Agencies and the general public. Once all the issues from the comments have been addressed, a Final EIS will be published and submitted to federal agency for approval. The Record of Decision (ROD) will be issued after the decision has been made.

The following sub-sections will provide a more detailed description of the CE, EA, and EIS process, respectively.

2.3.3 Categorical Exclusion (CE) Process

References: 23 CFR 771.115(b) "Class II (CEs)" Action Definition (USGPO 2012a)
23 CFR 771.117(b) "Unusual Circumstances" Definition (USGPO 2012a)
40 CFR 1507.3 "Agency procedures" (USGPO 2012b)
40 CFR 1508.4 "Categorical Exclusion" Definition (USGPO 2012b)

Section I of FHWA Technical Advisory T6640.8A "Categorical Exclusion (CE)"
A Citizen's Guide to the NEPA "Implementing the NEPA Process" (CEQ 2007)
Illinois Bureau of Design and Environment Manual Chapter 23 "Categorical Exclusion" (IDOT 2010)

According to 40 CFR 1508.4, if the proposed actions "do not individually or cumulatively have a significant effect on the human environment" – as determined through the procedures adopted by a Federal agency in implementation of the 40 CFR 1507.3, then neither an environmental assessment nor an environmental impact statement is required" (USGPO 2012b). The FHWA environmental regulations (23 CFR 771) define "categorical exclusions" (CEs) as "Class II" "actions which meet the definition contained in 40 CFR 1508.4, and, based on past experience with similar actions, do not involve significant environmental impacts" (USGPO 2012a). According to 23 CFR 771.117, these are defined as actions that (USGPO 2012a):

- "Do not induce significant impacts to planned growth or land use for the area;
- Do not require the relocation of significant numbers of people;
- Do not have a significant impact on any natural, cultural, recreational, historic, or other resources;
- Do not involve significant air, noise, or water quality impacts;
- Do not have significant impacts on travel patterns; and
- Do not otherwise, either individually or cumulatively, have any significant environmental impacts".

Subsequently, if a proposed action is eligible for CE, the agency must review it to make sure no unusual circumstances exist that may cause the proposed action to have a significant environmental impact. Unusual circumstances may cause effects to endangered species, protected cultural sites, and wetlands (CEQ 2007). In 23 CFR 771.117 (b), FHWA defined unusual circumstances as (USGPO 2012a):

- "Significant environmental impacts;
- Substantial controversy on environmental grounds;
- Significant impact on properties protected by section 4(f) of the DOT Act or section 106 of the National Historic Preservation Act; or
- Inconsistencies with any Federal, State, or local law, requirement or administrative determination relating to the environmental aspects of the action".

The federal agency must prepare an EA or EIS if the proposed action(s) cannot satisfy the description provided by the agency's CE list, or unusual circumstances have been detected (CEQ 2007). Most projects developed by IDOT qualify as CEs (IDOT 2010).

A Statewide Implementation Agreement, commonly referred to as "CE Agreement," has been developed in conformance with 23 CFR 771.117 to address the development and approval of CEs in Illinois (IDOT 2010).

The CE process is summarized in Fig. 5 (adapted from IDOT 2010-Chapter 23). It is composed of seven sub-processes or activities:

- Activity 01 Initiate CE Process
- Activity 02 Inventory and Evaluate Project Alternatives
- Activity 03 Initiate Early Coordination
- Activity 04 Evaluate Alternatives for Unusual Circumstances
- Activity 05 Prepare Environmental Documentation
- Activity 06 Notify Public/Affected Agencies
- Activity 07 Secure CE Approval

For a more detailed description of the CE classifications, procedure, and required documents; please refer to Illinois Bureau of Design and Environment Manual (IDOT 2010-Chapter 23).

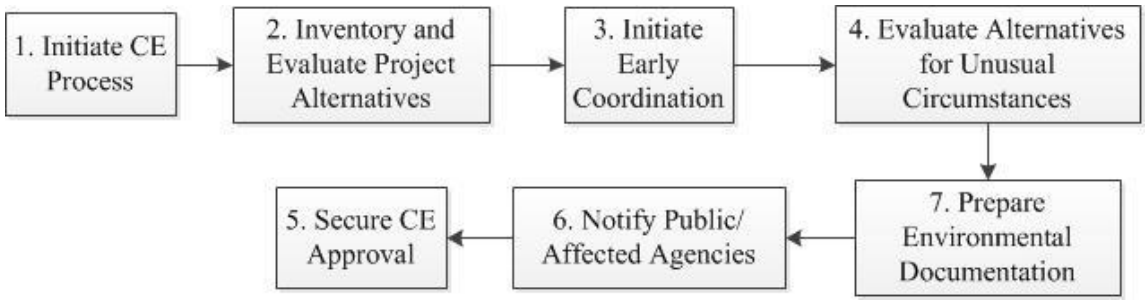

Figure 5 – Categorical Exclusion (CE) Process Flow Chart

2.3.4 Environmental Assessment (EA) Process

References: 23 CFR 771.119 "Environmental Assessment" (USGPO 2012a)
40 CFR 1501.3 "When to prepare an environmental assessment" (USGPO 2012b)
40 CFR 1508.9 "Environmental Assessment" (USGPO 2012b)
40 CFR 1508.13 "Finding of No Significant Impact" (USGPO 2012b)
40 CFR 1508.27 "Significantly" (USGPO 2012b)
A Citizen's Guide to the NEPA "Implementing the NEPA Process" (CEQ 2007)
A Guide to Transportation Decision Making (USDOT el at. 2007e)
Illinois Bureau of Design and Environment Manual Chapter 24 "Environmental Assessment" (IDOT 2010)

The FHWA regulation in 23 CFR 771.119 states that an EA shall be prepared "for each action that is not a CE and that does not clearly require the preparation of an EIS, or where the Administration (FHWA) believes an EA would assist in determining the need for an EIS" (USGPO 2012a). An EA shall be prepared for any proposed action that the significance of its environmental impact is not clearly established (USGPO 2012b). Proposed actions that have several indicators of unusual circumstances or have potential for public controversies based on environmental issues are typically considered as candidates requiring an EA (IDOT 2010).

In this scenario, the agency shall cooperate with environmental agencies, applicants, and the public, to the practicable extent in preparing an EA that concisely provides adequate evidence and analysis for determining whether an EIS is needed (USGPO 2012b). According to 40 CFR 1508.9 (USGPO 2012b), an EA is a concise public document that serves to:

- Briefly provide sufficient evidence and analysis for determining whether to prepare an EIS or a Finding of No Significant Impact (FONSI); and
- Facilitate the preparation of an EIS when one is necessary.

An EA shall contain brief discussions of (USGPO 2012b):

1) The need for the proposal;
2) Alternative actions of the proposal;
3) The environmental impacts of the proposed action and alternatives; and
4) A listing of agencies and persons consulted.

The purpose of an EA is to evaluate the significance of a proposal for agency actions; it should focus on the context and intensity of effects that may "significantly" affect the human environment (USGPO 2012b).

In case no significant effect on the human is foreseen, the EA process will conclude with a Finding of No Significant Impact (FONSI). FONSI is a document where the agency briefly presents the reasons why the proposed action will have no significant impact on the human environment. The FONIS shall include the EA or a summary of it, or incorporate it by reference (USGPO 2012b).

If, after the EA is prepared, it turns out that the proposed action has a significant impact on the environment, an EIS is then prepared (USDOT et al. 2007e).

The CE process is summarized in Fig. 6 (adapted from IDOT 2010-Chapter 24). It is composed of 19 sub-processes or activities:

- Activity 01 Initiate EA
- Activity 02 Define Preliminary Project Scope

- Activity 03 Initiate Public Involvement/Early Coordination
- Activity 04 Comply with CSS Requirements/Conduct Public Meeting
- Activity 05 Conduct Purpose and Need Coordination
- Activity 06 Determine and Evaluate Reasonable Alternatives
- Activity 07 Conduct Range of Alternatives Coordination
- Activity 08 Prepare Preliminary EA
- Activity 09 Review Preliminary EA
- Activity 10 Approve EA and Make Available for Public Comment
- Activity 11 Implement Public Involvement Process
- Activity 12 Conduct Preferred Alternative Coordination
- Activity 13 Evaluate for Major Project Requirements
- Activity 14 Prepare EA Errata and Recommend FONSI
- Activity 15 Draft Project Management Plan for Major Projects
- Activity 16 Issue FONSI or Proceed to EIS
- Activity 17 Finalize Project Management Plan for Major Projects
- Activity 18 File Statute of Limitations Notice (Optional)
- Activity 19 Monitor Construction

For a more detailed description of the EA process, please refer to Illinois Bureau of Design and Environment Manual (IDOT 2010-Chapter 24).

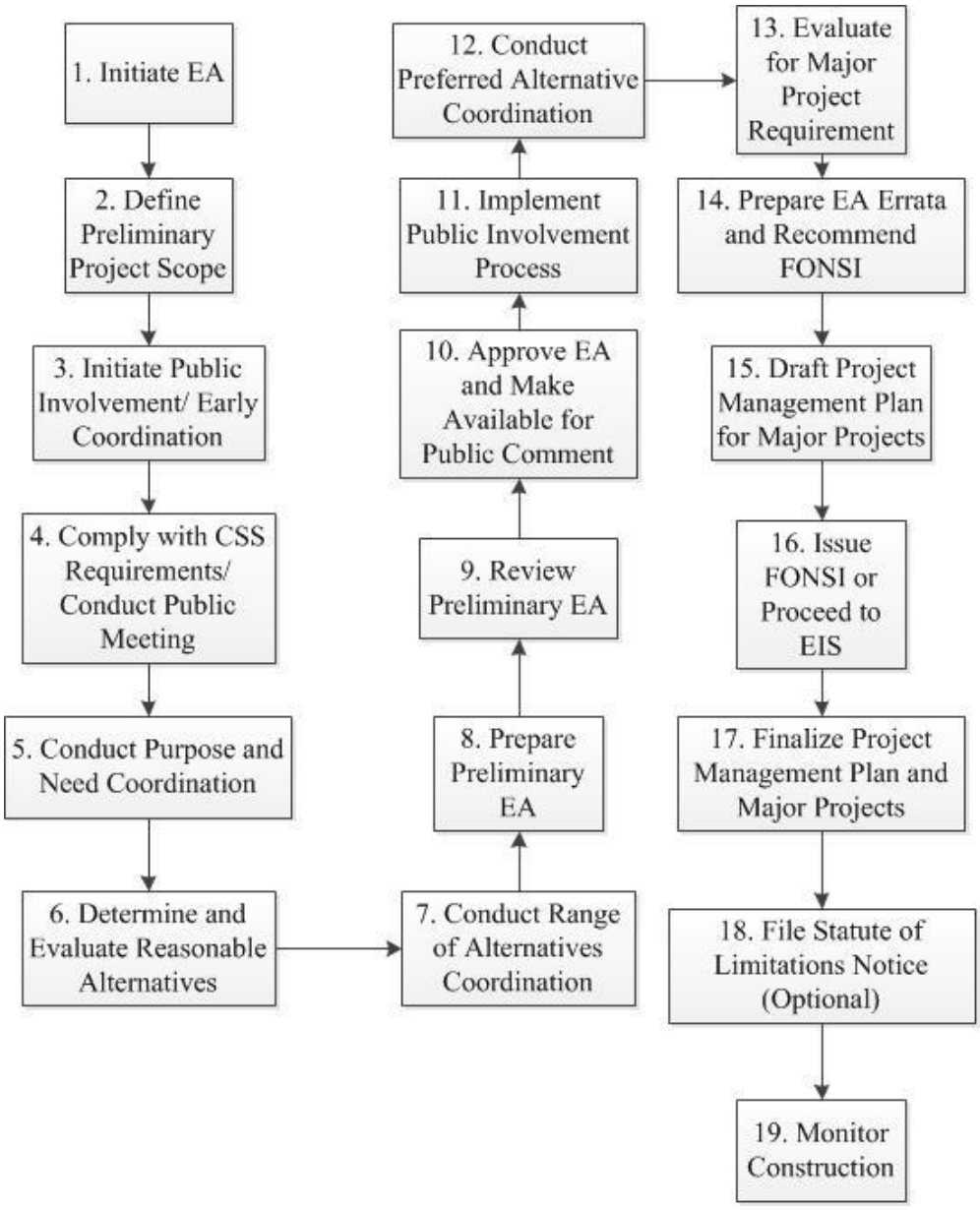

Figure 6 – Environmental Assessment (EA) Process Flow Chart

2.3.5 Environmental Impact Statement (EIS) Process

References: 23 CFR 771.115(b) "Class I (EIS)" Action Definition (USGPO 2012a)
40 CFR 1501.4 "Whether to prepare an environmental impact statement" (USGPO 2012b)
40 CFR 1502.22 "Notice of Intent" (USGPO 2012b)
40 CFR 1501.7 "Scoping" (USGPO 2012b)
40 CFR 1502.9 "Draft, final, and supplement statements" (USGPO 2012b)
40 CFR 1502.13 "Purpose and need" (USGPO 2012b)

40 CFR 1502.14 “Alternatives including proposed action” (USGPO 2012b)
40 CFR 1502.15 “Affected environment” (USGPO 2012b)
40 CFR 1502.16 “Environment consequence” (USGPO 2012b)
40 CFR 1502.2 “Record of decision in cases requiring environmental impact statements” (USGPO 2012b)
A Citizen’s Guide to the NEPA “Implementing the NEPA Process” (CEQ 2007)
Director’s order # 12: conservation planning, environmental, impact analysis, and decision-making (USNPS 2007)
Illinois Bureau of design and environment manual Chapter 25 Environmental Impact Statement (IDOT 2010)
NEPA’s Forty Most Asked Questions 4a. “Agency’s Preferred Alternative” (CEQ 2006)
NEPA’s Forty Most Asked Questions 6a. “Environmentally Preferable Alternative” (CEQ 2006)

The federal agency must prepare an EIS if the proposal normally requires an EIS or if after the EA significant environmental impact has been detected (USGPO 2012b).

The FHWA environmental regulations (23 CFR 771) define an action that significantly affects the environment and requires an EIS based on 40 CFR 1508.27 as “Class I” action (40 CFR 1508.27). 23 CFR 771 provides some examples of actions that normally require an EIS (USGPO 2012a):

- “A new controlled access freeway;
- A highway project of four or more lanes on a new location;
- New construction or extension of fixed rail transit facilities (e.g. rapid rail, light rail, commuter rail, automated guideway transit);
- New construction or extension of a separate roadway for buses or high occupancy vehicles not located within an existing highway facility.”

The publication of a Notice of Intent (NOI), which states that an EIS will be prepared and considered for a particular proposal, marks the beginning of the EIS process. The NOI shall briefly (USGPO 2012b):

- “Describe the proposed action and possible alternatives;
- Describe the agency's proposed scoping process including whether, when, and where any scoping meeting will be held; and
- State the name and address of a person within the agency who can answer questions about the proposed action and the environmental impact statement”.

After the lead agency publishes the NOI, it will proceed to a scoping process to determine the scope of significant issues to be addressed in the environmental review. The following is a list of responsibilities that the lead agency shall fulfill in the scoping process (USGPO 2012b):

1) Invite affected or interested federal, state, tribal, local agencies or persons to participate in the scoping process;
2) Identify the scope of significant issues to be analyzed in depth in the EIS;
3) Identify and eliminate from the detailed study issues that are not "significant" and those that have been adequately addressed by previous environmental reviews;
4) Allocate assignments for the preparation of the EIS among the lead agency and cooperating agencies;
5) Indicate any related EAs and EISs which are available or are under preparation;
6) Identify the requirements of other environmental review and consultation which may be conducted concurrently and integrated with the EIS being prepared; and
7) Demonstrate the relationship between the timing of the preparation of environmental analyses and the agency's tentative planning and decision-making schedule.

As part of the scoping process, the lead agency may also set time limits for the process and page limits for environmental documents. To further ensure early coordination, the lead agency may hold scoping meetings or integrate them with other early planning meetings (USGPO 2012).

Following the scope determined in the scoping process, the lead agency shall work with the cooperating agencies to prepare a draft EIS (DEIS). Once accomplished, the lead agency shall obtain comments from both the agencies and the broader public. Federal, state, or local agencies which have authority to accept, deny or fund the proposal, developing and executive agencies of environmental standards, and agencies which provide special perspective on environmental issues; are obligated to offer comments on the DEIS during the comment period (USGPO 2012b). The comment period shall not be less than 45 days (USGPO 2012b). In the meantime, the lead agency shall make the DEIS available to the public to receive comments from any interested or affected persons or organizations. A notice of availability will be published on the federal register to inform the public that the DEIS is ready for comment. Public hearing and meetings are the typical tools adopted by the lead agency to encourage public input during the comment period (CEQ 2007).

The contents of the DEIS shall be similar to the final EIS (FEIS), which includes a description of the purpose and need of the proposed action, identification and evaluation of reasonable alternatives, conditions of the affected environment, and analysis of the projected beneficial and adverse environmental effects of all reasonable alternatives (USDOT et al. 2007).

The purpose and need statement in the draft EIS concisely describes why the agency wants to propose the action and what it wants to achieve. It serves as the basis for the alternative

assessment section, where the lead agency shall provide a strict and unbiased evaluation of all reasonable alternatives that considerably satisfy the purpose and need of the agency. A reasonable alternative is defined based on technical and economic feasibility, rather than desirability from the perspective of the applicant. Proper and in-depth analysis shall be given to all reasonable alternatives or a reasonable range of alternatives to ensure the reviewers can make comparison of different alternatives in term of their economic, transportation, and environmental effect. For those alternatives excluded from the in-depth analysis, appropriate reasons shall be provided (CEQ 2007). The lead agency must include a "no action alternative" in the detailed assessment of reasonable alternatives, although this is not always a viable choice. The analysis of "no action alternative" basically explains what the environment will be like without taking the proposal into action. It will set a baseline environmental impact to determine the relative magnitude and intensity of impacts (USNPS 2007).

Based on the alternative assessment, the lead agency may also select its preferred alternative or alternatives in the DEIS. The "agency's preferred alternative" is the alternative which the agency believes would fulfill its statutory mission and responsibilities, giving consideration to economic, environmental, technical, and other factors (CEQ 2006).

Besides the alternative assessment, the DEIS shall also include a succinct description of the environment where the alternatives will have a direct impact on as well as a comprehensive analysis of environmental consequences of all the reasonable alternatives. The environmental consequences shall cover the direct, indirect, and cumulative impacts of all reasonable alternatives whether beneficial or adverse (USGPO 2012b).

Following the public comment period, the lead agency shall "access and consider the comments both individually and collectively" (USGPO 2012b) and make corresponding responses in the final EIS. Once completed, the final EIS will be published by the lead agency and a notice of availability will also be published in the federal register (CEQ 2007).

Record of decision (ROD) is a statement that explains the final decision towards the proposed action, and it marks the end of the EIS process. The ROD shall include a review of all the alternatives evaluated by the lead agency, and identify the environmentally-preferable alternative. The environmentally-preferable alternative is the alternative which "causes the least damage to the biological and physical environment; it also means the alternative which best protects, preserves, and enhances historic, cultural, and natural resources" (CEQ 2006). In deciding the environmentally-preferable alternative, the lead agency shall address all relevant factors including economic and technical considerations and agency statutory missions. Besides the environmentally-preferable alternative, the ROD shall also discuss the mitigation plan to avoid or minimize the adverse environmental impact and summarize the corresponding monitoring and enforcement program to ensure its effective implementation (USGPO 2012b).

The CE process is summarized in Fig. 7 (adapted from IDOT 2010-Chapter 25). It is composed of 31 sub-processes or activities:

- Activity 1 Initiate EIS Process
- Activity 2 Develop Environmental Process Time Frames
- Activity 3 Develop Draft Stakeholder Involvement Plan
- Activity 4 Publish Notice of Intent
- Activity 5 Begin External Coordination Activities
- Activity 6 Perform Environmental Survey (Record Phase)
- Activity 7 Conduct Scoping Process/Initiate NEPA/404 Process
- Activity 8 Determine Analysis Methodologies and the Level of Detail
- Activity 9 Finalize Stakeholder Involvement Plan
- Activity 10 Conduct Context Audit
- Activity 11 Develop Project Problem Statement
- Activity 12 Conduct Purpose and Need Coordination
- Activity 13 Conduct Range of Alternatives Coordination
- Activity 14 Perform Environmental Survey (Field Record)
- Activity 15 Evaluate Alternatives in Depth
- Activity 16 Prepare/Review Preliminary DEIS
- Activity 17 Prepare DEIS for Circulation
- Activity 18 Circulate DEIS
- Activity 19 Implement Public Hearing Process
- Activity 20 Evaluate and Respond to Substantive Comments
- Activity 21 Conduct Preferred Alternative Coordination
- Activity 22 Evaluate for Major Project Requirement
- Activity 23 Prepare/Review Preliminary FEIS
- Activity 24 Prepare/Process FEIS for Approval
- Activity 25 Circulate FEIS
- Activity 26 Evaluate and Respond to Substantive Comments
- Activity 27 Evaluate and Respond to Substantive Comments
- Activity 28 Sign Record of Decision
- Activity 29 Finalize Project Management Plan for Major Projects
- Activity 30 Publish Statue of Limitations Notice
- Activity 31 Implement Mitigation Measures

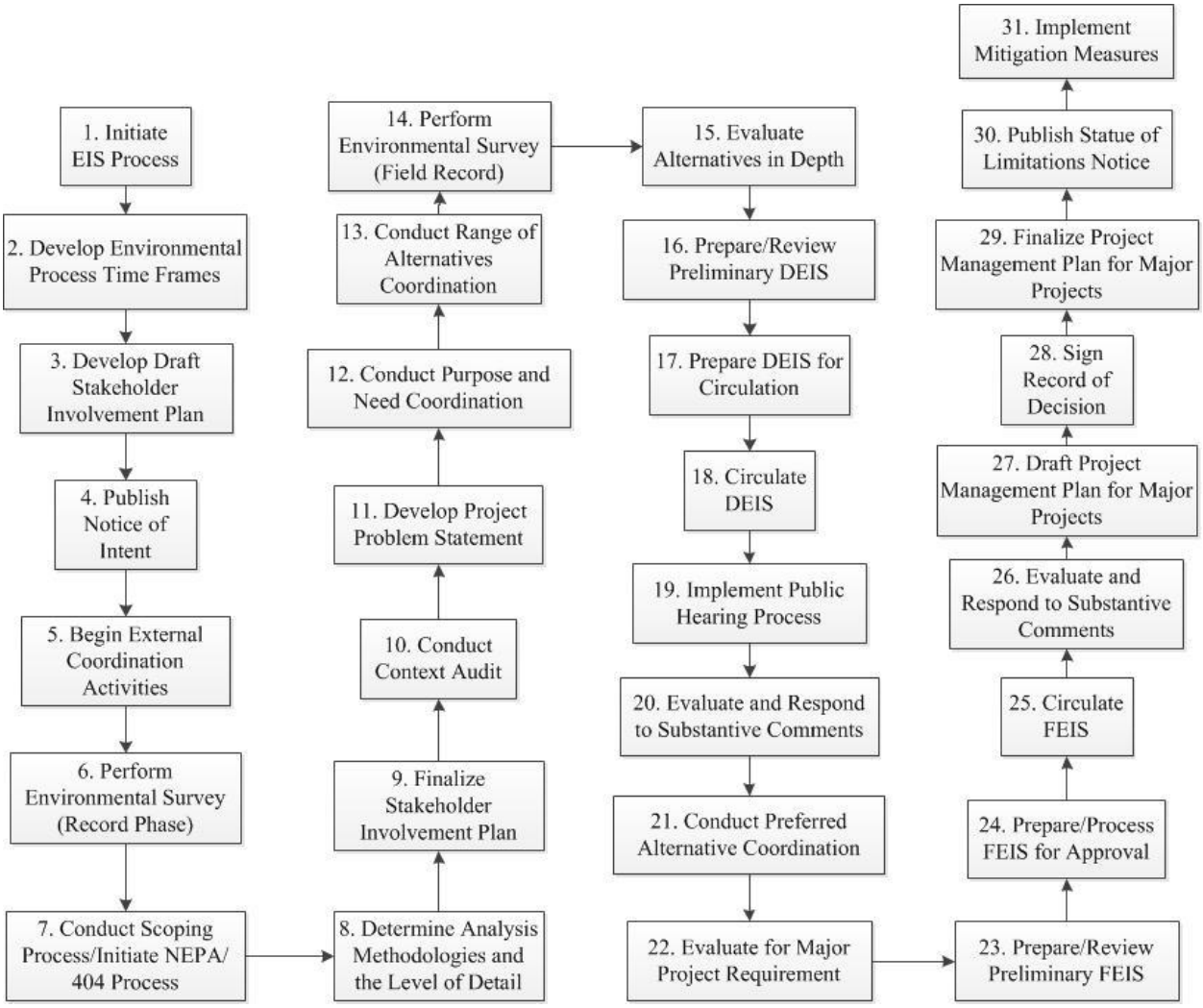

Figure 7 – Environmental Impact Statement (EIS) Process Flow Chart

For a more detailed description of the EIS process, please refer to the Illinois Bureau of design and environment manual (IDOT 2010-Chapter 25).

2.4 Current Practices of Integrating NEPA and Transportation Planning Processes

As part of this task, the research team reviewed existing documents/studies that describe the current practices of linking/integrating NEPA and transportation planning processes in other states. The research team reviewed relevant information resources including NEPA regulations, the FHWA's Planning and Environment Linkages (PEL) initiative and its related publications, and reports by the National Cooperative Highway Research Program (NCHRP). The research team placed special emphasis on states that have recently developed a formalized/documented guidance on how to integrate transportation planning and NEPA processes. The research team

reviewed existing documents/studies that describe the current practices of linking/integrating NEPA and transportation planning processes from four states

- Colorado
- Florida
- Indiana
- Maine

2.4.1 Colorado: Strategic Transportation, Environmental, and Planning Process for Urban Places

2.4.1.1 Overview and Goals

Initiated in 2002, the Colorado Department of Transportation (CDOT), in partnership with FHWA, EPA Region 8, and North Front Range Metropolitan Planning Organization (NFRMPO), conducted the Strategic Transportation, Environmental, and Planning Process for Urban Places (STEP-UP) project. STEP-UP is an environmental streamlining pilot project aimed at integrating environmental considerations into transportation planning (USDOT and FHWA 2007a).

The whole project development process was divided into three phases with phase 1 beginning in July 2004. In this phase, STEP-UP project goals and its implementation process were first identified. The goals include (Tracey et al. 2005):

- Improve the current transportation planning process and develop a methodology for addressing environmental impacts of transportation projects at the earliest possible stage.
- Develop Geographic Information System (GIS)-based tools to identify and assess the environmental impacts of transportation projects and plans early on.
- Establish a Regional Cumulative Effects Assessment process for NFRMPO's Regional Transportation Plan to better evaluate the environmental impacts of transportation development.

Then in the following seven months, the project team accomplished the improved process and developed an initial design of a GIS-based interactive tool to facilitate decision-making.

Phase 2 lasted from 2006 to 2007. In this phase, the project team created an environmental GIS Web-based application based on data gathering and the pilot testing. After the application was created, CDOT started to prepare for its eventual statewide implementation, in the meanwhile, NFRMPO also prepared to use it in the transportation planning process which began in 2007 (TRB 2011a).

In phase 3, STEP-UP was put into practice in the transportation planning process by NFRMPO. And up to now, STEP-UP has been applied solely in NFRMPO region, since the pilot project

was specifically designed for this region and will require additional resources for application in a broader level (TRB 2011a).

Ultimately, STEP-UP aims at achieving the following two goals (USDOT and FHWA 2007a):

- Resulting in "a model planning process for identifying environmental issues early in development of the long-range regional transportation plan; ensuring early and continued involvement by resource agencies; creating a better link between transportation, environmental, and land use planning; and implementing transportation improvements that protect the environment, enhance quality of life, and promote community values";
- "Improving the local project prioritization process and initiating the regional cumulative environmental assessment framework".

2.4.1.2 Agencies and Organizations Involved

The following agencies and organizations were involved in the SET-UP, with CDOT and NFRMPO taking strong leadership roles in working with Resource Agencies and arranging meetings:

- Colorado Department of Transportation (CDOT)
- North Front Range Metropolitan Planning Organization (NFRMPO)
- Federal Highway Administration (FHWA)
- U.S. Environmental Protection Agency (U.S.EPA)
- U.S. Fish and Wildlife Service (U.S.FWS)
- U.S. Army Corps of Engineers (U.S.ACE)
- U.S. Department of Transportation (U.S.DOT)
- Colorado State Historic Preservation Office
- Colorado Division of Wildlife

2.4.1.3 Original Planning Process

NFRMPO is a planning agency responsible for developing regional transportation plan and transportation improvement program for the North Front Range Metropolitan Area, in cooperation with CDOT. Before adopting the integrated process produced by STEP-UP, NFRMPO followed the following steps as its standard transportation planning process (Tracey et al. 2005; USDOT and FHWA 2007a):

1) Call for Projects: Regional government and CDOT prepare project proposals and submit them for inclusion in the Regional Transportation Plan (RTP).
2) Project Prioritization Process: NFRMPO reviews the candidate projects for eligibility including regional significance, and then projects are categorized, evaluated, and ranked. Originally, NFRMPO would apply no environmental criteria in this process.
3) RTP development: Planning Council would approve eligible projects for inclusion in the RTP. The RTP is composed of a Vision Plan and a Fiscally Constrained Plan. Ultimately, CDOT and NFRMPO would integrate NFRMPO's RTP into the Statewide

Transportation Plan (STP) and update both plans concurrently approximately every four to five years. The RTP depicts the preferred regional vision and a feasible plan identifying goals and projects to fulfill the vision. The RTP are based on the analysis of the existing transportation system including the travel and mobility demand as well as socio-economic and demographic profile.

4) Prepare Transportation Improvement Program (TIP): The TIP contains multi-modal projects to be conducted in a six-year schedule from the fiscally constrained portion of the RTP. It must be consistent with the Colorado State Implementation Plan for air quality. The TIP is integrated into the Statewide Transportation Improvement Plan (STIP) and is updated every 2 years.

2.4.1.4 Streamlined Planning Process

Many problems were identified after an evaluation of the original NFRMPO RTP process. The original transportation planning process did not involve sufficient environmental consideration and Resource Agency participation, and failed to address planning factors such as land use and environmental impacts, in an integrated manner (Tracey et al. 2005). More importantly, in the original process, environmental feasibility is not considered when evaluating projects to be included in the TIP. In order to solve these problems and meet the requirements of STEP-UP, several key steps were modified and are shown in Fig. 8 (Tracey et al. 2005). The following is a summarized description of how NFRMPO refined these key steps (Tracey et al. 2005):

1) Regional Environmental Review: This step provides early involvement of Resource Agencies and CDOT during the development of the long-range transportation plan, which allows early identification of critical environmental issues and avoidance of problems which can become fatal flaws at the project level. Using the web-based GIS tool, Resource Agencies and CDOT can review environmental data, identify crucial environmental issues associated with regionally significant corridors (not specific projects), and comment on a corridor and its relationship to environmental resources. The GIS tool can also generate a checklist of potential cumulative effects within the region and by corridor.
2) Corridor Assessment and Vision Review: As part of the RTP development, this step provides early involvement of MPO members in the identification of environmental issues. In this step, MPO staff cooperates with MPO committee members to identify significant corridors, and determine and refine the visions, goals, and strategies for each corridor. A corridor is a transportation system that consists of all modes and facilities within a described geographical area (described by length and width). This step also allows MPO staff and MPO members to review environmental concerns identified by Resource Agencies and CDOT during the Regional Environmental Review and address them in the vision statement.
3) RTP Project Submittal: In this step, MPO members develop project proposals to submit using the information provided on environmental issues and regionally significant

corridors. The MPO then uses the same information to evaluate the projects after they are submitted. If the projects meet the eligibility criteria set in the Project Prioritization and Screening Process after a pre-screen, it goes through the next step conducted by the MPO.

4) Project Prioritization and Screening Process: In this step, the MPO evaluates the projects submitted by local agencies for inclusion in the RTP using preset criteria including an environmental impacts criterion. The criterion is based on the data generated by the GIS tool including the environmental data and the review comments by Resource Agencies and CDOT, and the environmental concerns identified by Resource Agencies and CDOT during the Regional Environmental Review. This step enables the MPO to review and comment on the RTP candidate projects with specific data, which may lead to more accurate estimation of project cost and timing.
5) Regional Transportation Plan Document: The RTP includes a Vision Plan and a Fiscally Constrained Plan. The Vision Plan lists multi-modal transportation needs in each corridor for at least a 20-year period. All candidate projects are categorized and prioritized to develop a list of projects ranked in order of significance to the region. Projects with high priority that are likely to be funded would be included in the Fiscally Constrained Plan. This step provides a quantitative means of considering environmental data and a venue for Resource Agency input to facilitate projects categorization and prioritization.
6) Pre-TIP Environmental Review and Scoping: In this step, CDOT, FHWA, Resource Agencies, and project sponsors conduct a more comprehensive environmental evaluation of the top few projects on the RTP before they move into the TIP. Environmental evaluation includes determination of the appropriate NEPA class of action (CE, EA, and EIS) for each project, identification of Resource Agencies, development of purpose and need, and cost estimates of environmental/NEPA studies. The information generated from the previous step and the GIS-based tool facilitates the evaluation process.
7) TIP/STIP Document: In this step, MPO prepares a list of projects to be funded over the next 6 years, updating the list at least every 4 years. To be eligible for funding, a project must be integrated into the STIP.
8) Project Development: In this step, the projects identified in the TIP/STIP go through the following steps by CDOT and the project sponsor:
    - NEPA documentation
    - Permitting
    - Preliminary design
    - Right of Way (ROW) acquisition
    - Final design
    - Construction

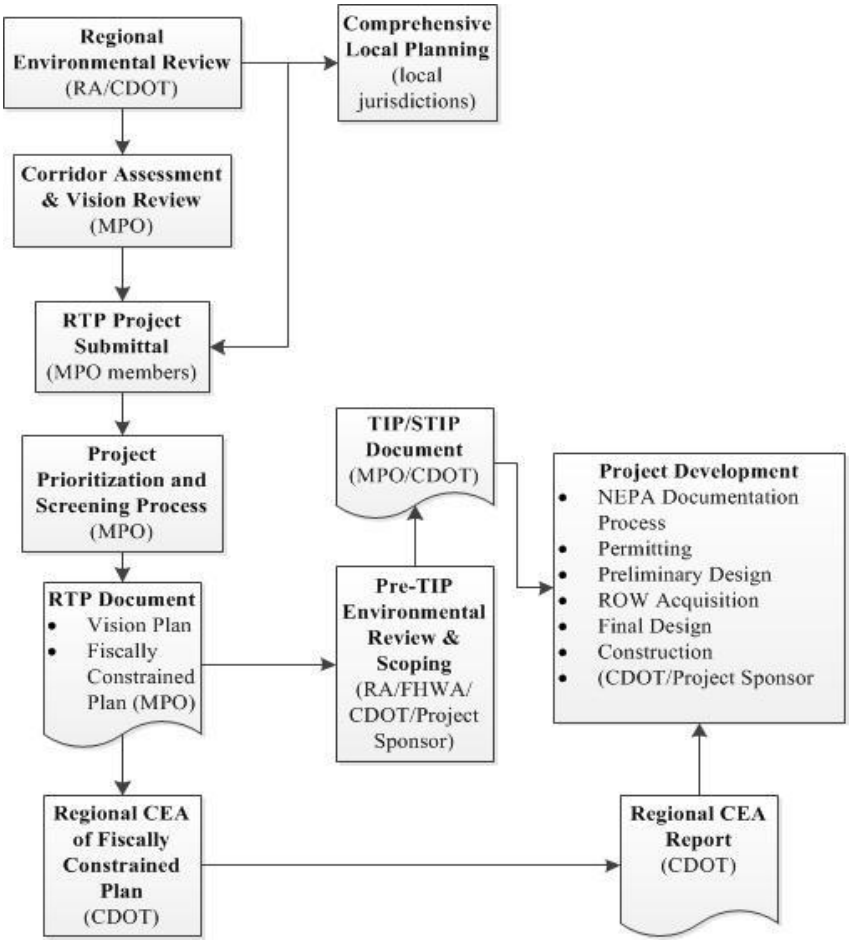

Figure 8 – Modified RTP Development Process Flow Chart

2.4.1.5 Main Elements and Features of the Streamlined Process

The following elements and features characterize the streamlined process:

1) Streamlined planning process (USDOT and FHWA 2007a): As illustrated in Fig. 8, the modified RTP process successfully links NEPA decision-making with transportation planning by integrating environmental review and screening into the RTP process. The modified RTP process attempts to include the studies, analyses, and conclusions of transportation planning process into the NEPA process in order to reduce redundant work (Yates Oppermann 2007). For example, the streamlined process would use the goals within the corridor vision developed in the planning process as the basis to define the purpose and need statement for NEPA documents (Yates Oppermann 2007). The integrated process also provides opportunities for early and continuous agency and public participation from the regional environmental review process to the final project development.

2) User friendly web-based decision-making tool (TRB 2011a): Resource Agencies, local jurisdictions, and planning agencies can have full access to the tool via the Internet using a standard browser. Using this tool, a user can review data in one or more layers and provide comments for all participating users for consideration and response. Fig. 9 shows a snapshot of the web-based decision-making support tool (TRB 2011a).
3) Scheduled cooperation and interaction process (USDOT and FHWA 2007a): During the development process (from 2003 to 2007), meetings with all participating agencies were held at least once per month. Once the process was underway, meetings occurred once every 6 months.
4) Inter-agency cooperation (USDOT and FHWA 2007a): Staff-level representatives from NFRMPO, CDOT, U.S.EPA, FHWA, U.S.ACE, and U.S.FWS formed a steering committee to attend every meeting in the development process and each Resource Agency voluntarily dedicated a staff member who could participate in the STEP-UP meetings and provide input on the initiative.

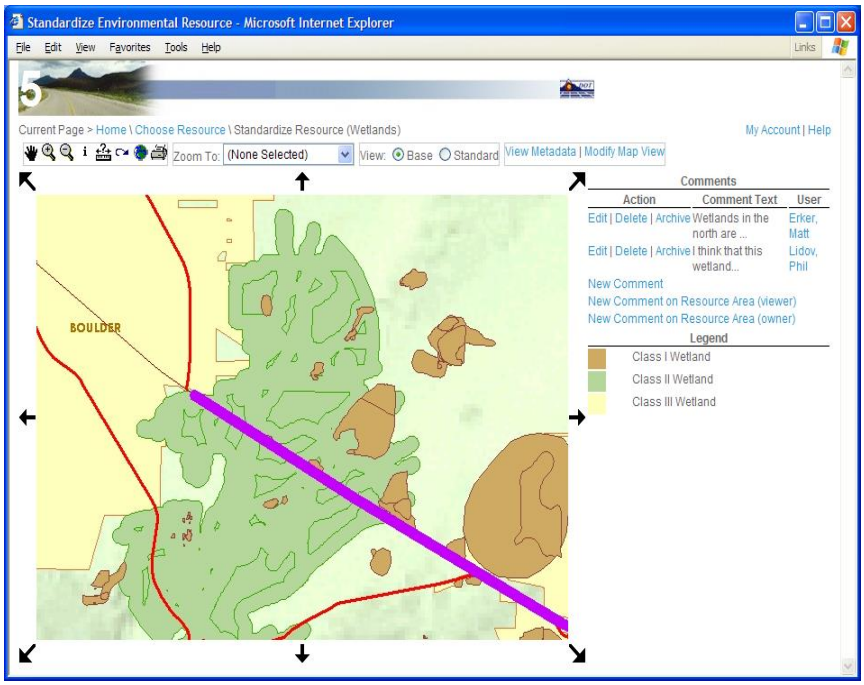

Figure 9 – Screen Capture of the STEP-UP Web-based Tool

2.4.2 Florida: Efficient Transportation Decision-Making Process

2.4.2.1 Overview and Goals

In 2000, the Florida Department of Transportation (FDOT) initiated the Efficient Transportation Decision-Making (ETDM) process in an executive summit with Federal, State, and local agency representatives. The fundamental goal of the ETDM process is to develop a process for early and

continuous Resource Agency input into the FDOT environmental review, decision-making, and permitting process to make project delivery more efficient and less costly (USDOT and FHWA 2007b). After three years of efforts, the project team developed the ETDM process which is composed of three phases: Planning Screen, Programming Screen, and Project Development.

During the Planning phase, Resource Agencies review the Purpose and Need Statement, and comment on the potential environmental impacts. These comments help FDOT and MPOs determine the feasibility of proposed projects identified in their Long Range Transportation Plans. In this phase, planners are able to avoid or minimize impacts by adjusting project concepts, develop alternatives, and produce accurate cost estimates by examining more detailed environmental and transportation issues. The Programming Screen occurs when those projects are being considered for funding in the FDOT Work Program or MPO Transportation Improvement Program (TIP). Planning and Programming Screens give Resource Agencies the opportunity to identify project-specific environmental issues. In this way, the Planning and Programming Screens allow for early development of avoidance/minimization strategies and mitigation measures, and early identification and elimination of "fatally flawed" projects from additional study (FDOT 2006b).

The project team also developed the Environmental Screening Tool, an internet-accessible interactive database for documenting project changes, evaluating impacts, and communicating project details to agencies and the public.

2.4.2.2 Agencies and Organizations Involved

The following agencies and organization were major participants in developing the ETDM process, with FDOT taking strong leadership roles in working with Resource Agencies and arranging meetings:

- Advisory Council on Historic Preservation
- Federal Highway Administration (FHWA)
- Federal Transit Administration (FTA)
- National Marine Fisheries Service (NMFS)
- National Park Service (NPS)
- National Resources Conservation Service (NRCS)
- U.S. Army Corps of Engineers (U.S.ACE)
- U.S. Coast Guard (U.S.CG)
- U.S. Environmental Protection Agency (U.S.EPA)
- U.S. Fish and Wildlife Service (U.S.FWS)
- U.S. Forest Service (U.S.FS)
- Florida Department of Agriculture and Consumer Services
- Florida Department of Community Affairs
- Florida Department of Environmental Protection
- Florida Department of State

- Florida Department of Transportation (FDOT)
- Florida Fish and Wildlife Conservation Commission
- Florida Metropolitan Planning Organization Advisory Council
- State Historical Preservation Officer
- Northwest Florida Water Management District (NWFWMD)
- South Florida Water Management District
- Southwest Florida Water Management District
- St. Johns River Water Management District
- Suwannee River Water Management District
- The Seminole Tribe of Florida
- The Miccosukee Tribe of Indians of Florida

2.4.2.3 Original Planning Process

The original planning process established throughout the FDOT's Districts includes the following steps (FDOT 2001):

1) Mobility planning: In this step, FDOT and MPOs develop the regional vision which addresses mainly the mobility needs of the transportation system and prepare project proposals to fulfill the vision.
2) Long-range transportation plan (LRTP): After mobility planning, FDOT and MPOs evaluate the proposed projects and select appropriate ones based on regional priorities. Then FDOT and MPOs develop a cost feasibility plan for the selected projects to be included in the LRTP.
3) FDOT Work Program: In this step, MPOs and local governments provide a priority list of projects to FDOT, and they together develop a 5-year program for all transportation projects planned for each fiscal year. This work program aids FDOT in planning projects, financial forecasting, and measuring accomplishments of the FDOT. It also provides opportunities for public involvement.
4) Transportation Improvement Program (TIP): Federally-funded projects listed in the first four years of the FDOT Five Year Work Program are then transferred to the State Transportation Program developed by FDOT. An MPO prepares its TIP that contains all federally-funded as well as State-funded projects in the region. An MPO's TIP gets included without change in the Statewide Transportation Improvement Program (STIP).
5) Project Development and Environmental Phase: In this step, the NEPA process is initiated and the project team completes the project design and applies for permits from Resources Agencies.

To develop a streamlined planning and project development process, FDOT, in cooperation with FHWA, FTA, and other federal, state, and local agencies evaluated Florida's original transportation planning, project development, and environmental processes and identified the following problems (FDOT 2002):

1) During transportation planning process, MPOs and FDOT have only focused on the mobility needs of the transportation system and gave little consideration to the potential direct, secondary, and cumulative impacts of transportation decisions on the communities' environment.
2) MPOs and FDOT receives minimal input from Resource Agencies when identifying projects for inclusion in the LRTP. Since Resource Agencies' participation occurs only in the project development process, sometimes decades after a transportation decision was made, the environmental impacts are not considered in the project prioritization process.
3) When priority projects enter the FDOT Work Program, it usually takes another 5 years before any substantial planning and environmental analyses are conducted. As a result, when it reaches the project development phase, the project would gain so much public momentum that a decision not to build the project due to substantial environmental or social impacts is almost never made. However, mitigation strategies are identified and greatly increase the cost of the project.

2.4.2.4 Streamlined Planning Process

In order to solve the above problems, and create transportation decision and environmental planning linkages as well as promote agency involvement, the ETDM process added two screening events and an efficient permitting process to the original transportation planning process as shown in the Fig. 10 (FDOT 2011):

1) Planning Screen: This initial screening occurs before the proposed projects are included in the LRTP. It provides early agency involvement by enabling members of the Environmental Technical Advisory Team (ETAT) to review the project Purpose and Need Statements and comment on the environmental and social impacts of the projects on the community. The Environmental Screening Tool (EST) is used to evaluate and document the direct, secondary, and cumulative impacts of proposed projects, which allow planners to change project concepts to avoid or minimize negative effects, identify mitigation alternatives, and improve project cost estimates.
2) Program Screen: The second screening happens before projects are funded in the FDOT Five-Year Work Program and initials the NEPA process for federally-funded projects or the State Environmental Impact Report for state-funded projects. ETAT members provide agency scoping requirements to facilitate compliance with NEPA and other pertinent laws that are involved during the NEPA process. In case potential dispute issues exist, FDOT may initiate the Dispute Resolution Process before the project is programmed into the FDOT Five-Year Work Program.
3) Permit Coordination: During the project development phase, ETAT members will cooperate with FDOT's project managers and coordinate within their agency to issue construction permits simultaneously with the NEPA document process.

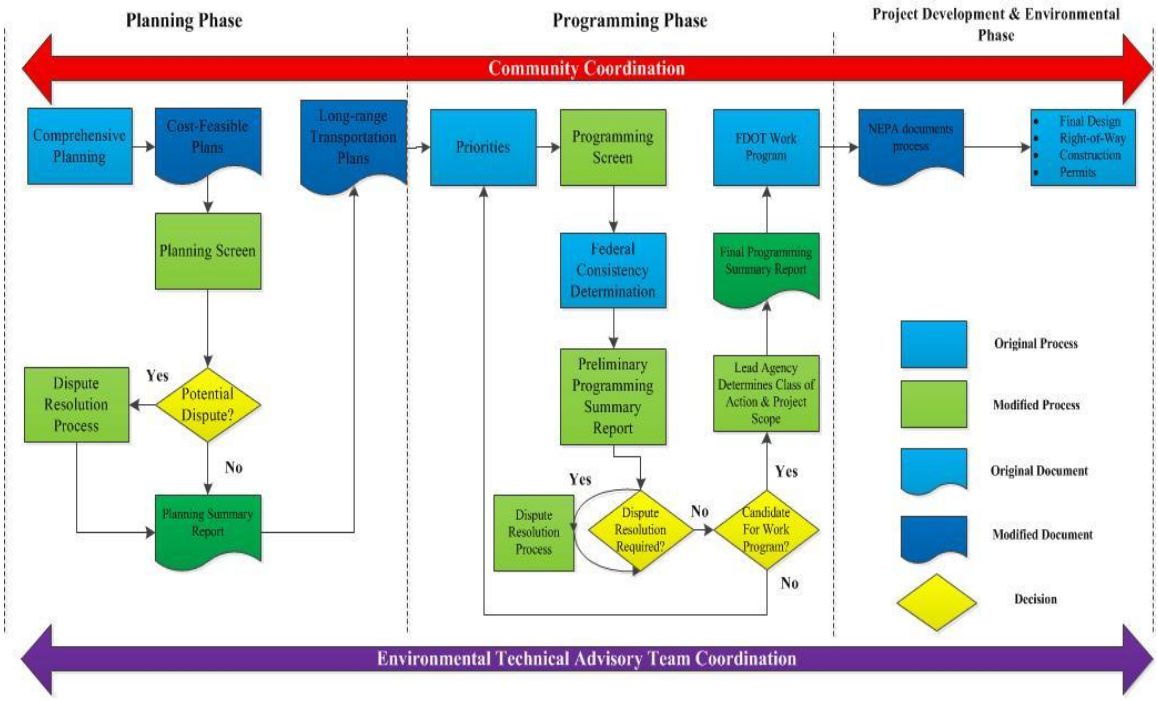

Figure 10 – ETDM Process Flow Chart

2.4.2.5 Main Elements and Features of the Streamlined Process

The following elements and features characterize the streamlined process:

1) Legal framework (USDOT and FHWA 2007b): 24 Federal, State, and regional agencies participated in the development of the ETDM process and signed a memorandum of understanding (MOU). The MOU outlined how the ETDM process involves agencies and ensures continuous agency participation. In addition to the MOU, participating agencies are responsible for signing three additional agreements with FDOT and FHWA: the Master Agreement, Agency Operating Agreement, and Funding Agreement. The Master Agreement defines the integrated processes, and establishes the framework of an agency's participation. The Agency Operating Agreement addresses an agency's specific statutory and regulatory responsibilities and authorities in the integrated processes. The Funding Agreement defines how the funding is to be used for supporting the streamlined processes. These three agreements, together with MOU, commit the participating agencies to continued development and implementation of the ETDM process.
2) Teamwork and coordination (FDOT 2006b): To facilitate decision-making in the planning, programming, and project development phases of the ETDM process, ETDM coordinator, Community Liaison Coordinator, and Environmental Technical Advisory Team (ETAT) are established to ensure the coordination and communication among Federal, State and resource agencies. An ETDM coordinator is responsible for implementing the ETDM process in a timely manner. An ETDM coordinator is designated to each FDOT district, the Turnpike district, and MPO. Each FDOT district

and MPO shall also have a Community Liaison Coordinator to conduct effective public involvement and assess potential socio-cultural effects for major transportation improvement projects. For each FDOT district, an ETAT is established and is composed of representatives from the 24 planning, regulatory, and source agencies. Each ETAT member is in charge of coordinating the team's actions to satisfy their agency's responsibility.

3) Environmental Screening Tool (EST) (TRB 2011b): EST is an internet-based GIS application which provides information on planned projects and surrounding environment. It is integrated with tools to examine potential project effects on natural, cultural, and community resources. EST is open to both public and ETAT. It provides standardized GIS analyses, reports of ETAT comments, and read-only information to the public. Fig. 11 shows a snapshot of the EST (Carolyn 2005).
4) Performance Measurement System: In order to monitor the time needed to complete document review, turnaround, and processing; a performance measurement system agreed by all the participating parties was developed. This system includes three performance goals and corresponding measures. The three goals are improving interagency coordination and dispute resolution which has 8 measures, integrating ETDM into project delivery which has 15 measures, and developing environmental stewardship through protection of environmental resources which has 6 measures. In order to measure the agency's performance on the above goals, data are collected from ETDM screens and summary report, project schedule (environmental document timeline), as well as communication log and survey. Among all the measures, there are 15 measures with three different indicators showing the different performance levels (FDOT 2005):
    - Green: achieves expectation
    - Yellow: needs improvement
    - Red: below expectation

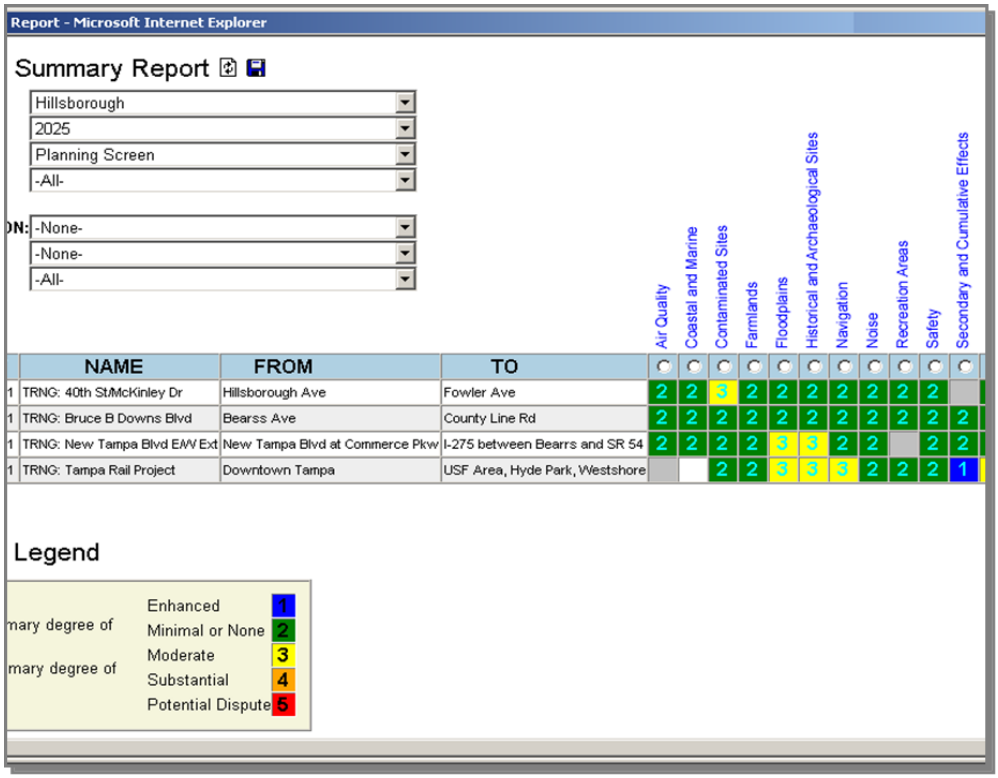

Figure 11 – Screen Capture of the EST Web-based Tool

2.4.3 Indiana: Streamlined EIS Procedure

2.4.3.1 Overview and Goals

Originally, in the Indiana Department of Transportation (INDOT), the NEPA process was separated from the transportation planning process and was initiated only in the early stages of project development. As a result, many controversial alternatives that were thought to have been eliminated during state transportation planning studies were being reevaluated during subsequent NEPA studies. This led to duplication of effort and waste of time, resources, and taxpayers' money.

In 2001, INDOT adopted a streamlined procedure for planning and environmental analysis to eliminate the duplication of activities between planning studies and subsequent environmental analysis carried out under the NEPA by combining them into one study. To make a brief summary, the Streamlined EIS Procedure is to conduct planning/corridor study in the context of NEPA. The word "corridor" in this context means an entire travel-shed or sub area where multiple transportation facilities are experiencing congestion, safety or other problems. The streamlined EIS procedures are initiated in one of two cases (USDOT and FHWA 2007c):

1) Option 1. Planning in the Context of EIS: If after reaching clear consensus on the project's design concept and scope or the need for improvements, INDOT and

Metropolitan Planning Organizations (MPO) agree to fund the proposed actions; the project will be programmed into INDOT Scheduling Production Management System and MPO 20-year Transportation Plan, and proposed improvement actions will be programmed into the MPO Transportation Improvement Program/Indiana Statewide Transportation Improvement Program. In this case, if INDOT anticipates that a project has significant environmental impact, Option1 is triggered. Fig. 12 shows the flow diagram of the planning procedure in the context of EIS (INDOT and FHWA 2007).

2) Option 2. Planning in the Context of EA/Corridor Study: For other proposed projects, the need and the design concept and scope are less clear and well-defined, or it may be unclear whether an agreed-upon design concept and scope will require an EIS or other type of NEPA document. Fig. 13 shows the flow diagram of the planning procedure in the context of EA/Corridor Study (INDOT and FHWA 2007).

Despite the success in linking NEPA and transportation planning studies, INDOT has decided to move forward to incorporate the use of Community Advisory Committees (CACs). A CAC consists of stakeholders from communities in which a project is located. FHWA and INDOT are also implementing an "Indiana Context Sensitive Design Policy and Procedure" within the streamlined EIS process.

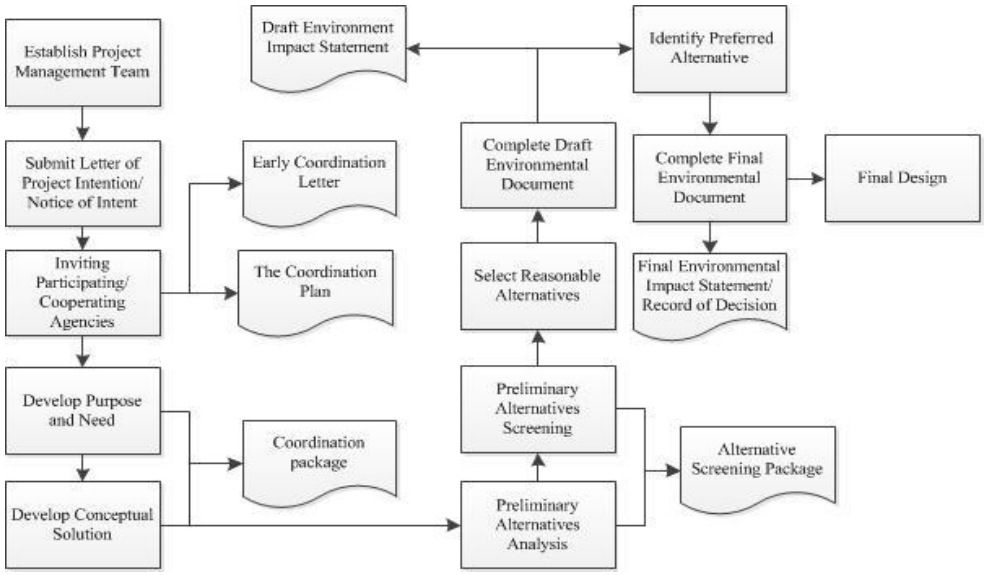

Figure 12 – Planning in context of EIS Flow Chart

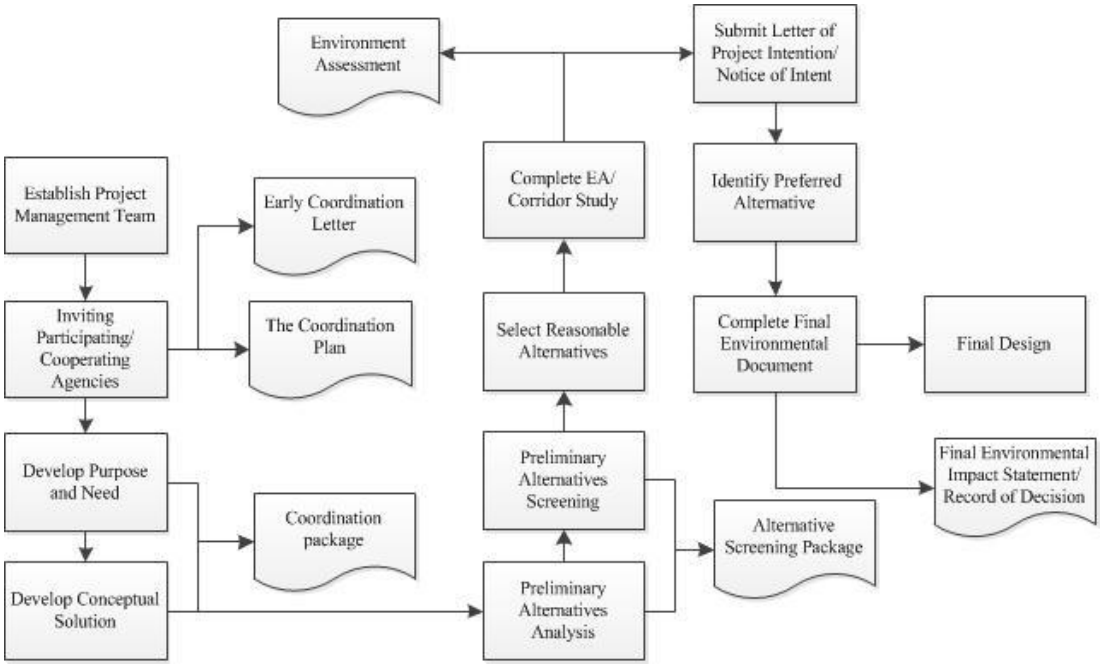

Figure 13 – Planning in Context of EA/Corridor Study Flow Chart

2.4.3.2 Agencies and Organizations Involved

The following agencies and organization were involved in developing the streamlined EIS procedure, with INDOT assuming strong leadership roles in working with Resource Agencies and arranging meetings:

- Federal Highway Administration (FHWA)
- Federal Transit Administration (FTA)
- U.S. Army Corps of Engineers (U.S.ACE)
- U.S.Environmental Protection Agency (U.S.EPA)
- U.S.Fish and Wildlife Service (U.S.FWS)
- U.S.Coast Guard (U.S.CG)
- National Park Service (NPS)
- National Resources Conservation Service (NRCS)
- Indiana Department of National Resources (IDNR)
- IDNR State Historic Preservation Officer (SHPO)
- Indiana Department of the Environment Management (IDEM)
- Transit Agencies

2.4.3.3 Streamlined EIS Process

INDOT has proposed the following streamlined planning process, regardless of whether the proposed action is planned in the context of EIS or in the context of EA/Corridor Study (INDOT and FHWA 2007):

1) Establish Project Management Team (PMT): According to the SAFETEA-LU, at the beginning of each project, a PMT will be assembled to provide guidance to the project consultant at each step of the EIS procedure. The PMT is composed of representatives from INDOT, Indiana Division of FHWA, Region 5 FTA, and the MPO.
2) Submitting Letter of Project Intention (LOPI)/Notice of Intent: Once the PMT has been established, a notice to proceed with the environmental study is issued to the consultant. The notice can be an LOPI issued to FHWA by INDOT, stating the type of work, termini, length, general location of the proposed project, and a timeline about the environmental review process. An LOPI should also include a list of any other federal approvals anticipated to be necessary for the proposed project. Instead, the notice can be a notice of intent as long as it includes the information required by Section 6002 of SAFETEA-LU (USGPO 2007).
3) Inviting Participating/Cooperating Agencies: After the time of the LOPI, the lead agencies of the project (typically FHWA and INDOT) should send invitations to potential participating/cooperating agencies. The invitations can be hard copy or email invitations, and should be easy to track to ensure delivery. The lead agency should keep a copy of the invitations and their responses in the project file. As the project advances, lead agencies may identify additional entities and invite them to serve as participating/cooperating agencies.
4) Coordination Plan: At the early stage of the environmental review process, the lead agencies should develop a coordination plan that includes a project schedule. The coordination plan must be shared with all participating agencies, INDOT, the project sponsor, and the general public. As additional participating agencies are identified or the complexity of issues becomes clearer, lead agencies can make corresponding changes.
5) Early Coordination Letter: While inviting participating agencies, lead agencies can include an Early Coordination Letter to encourage input from Resource Agencies. The Early Coordination Letter will include a map of the study area, and a description of the proposed action.
6) Develop Purpose and Need: It is the lead agencies' responsibility to develop the project's Purpose and Need if the project requires an EIS. Before the Purpose and Need is incorporated into the NEPA document, the lead agencies should encourage the involvement of participating agencies and the public, and consider their input. In this stage, the consultant needs to collect a wide variety of data on a project by project basis. It might include project background, design concept and scope of the project, existing

and future travel demands, and traffic safety data, as well other environmental and economic information related to the NEPA process.

7) Develop Conceptual Solutions: After the lead agencies finish the Purpose and Need, the consultant should begin preparing the Conceptual Solutions by identifying and analyzing the needs to be addressed in the Purpose and Need Statement, and then compile the Purpose and Need and Conceptual Solutions Summary as well as relevant technical documents as a Coordination Package for the PMT to review. Once the PMT is satisfied with the Coordination Package, the consultant will first conduct a public information meeting on the Coordination Package to receive public comment, and then another meeting with Resource Agencies will be held for further review and comment. The consultant will collect feedback from the two meetings, and together with the PMT, make revisions to the Coordination Package accordingly.
8) Preliminary Alternatives Analysis: In this step, the PMT gathers a wide range of feasible alternatives from various public/agency/community advisory committee contacts, and conduct a preliminary analysis to exclude unreasonable alternatives which cannot meet the basic Purpose and Need, or have a fundamental engineering, safety, or environmental "fatal flaw". For further analysis of the Preliminary Alternatives, a variety of environmental field studies are performed to determine their environmental impact.
9) Preliminary Alternatives Screening: In this step, the practicality of the various conceptual solutions in terms of cost and overall effectiveness and environment impact are determined. Accordingly, the consultant conducts the "Preliminary Alternative Screening" including the revised Purpose and Need, Conceptual Solutions, a summary of Preliminary Alternatives Screening, as well as proposed methodology for the analysis of reasonable alternatives.
10) Select Reasonable Alternative: Following the Preliminary Alternative Screening, the PMT holds public information meeting on the Preliminary Alternatives Screening Package to receive public comment, and then another meeting with Resource Agencies is held for further review and comment. Based on the feedback from both the public and Resource Agencies, FHWA and INDOT determine which preliminary alternatives will be chosen for further study and the scope of the additional study to be undertaken.
11) Prepare Draft Environmental Document: In this step, the leading agencies prepare a Draft Environmental Impact Statement (DEIS), which includes a detailed assessment of the project's impacts on the communities, natural, socio-economic and cultural resources, and the corresponding measures to avoid, minimize, or mitigate the environmental impacts. The DEIS should also summarize and address the primary issues raised by participating agencies and the public in the document. Once the preparation of preliminary DEIS is completed, it gets presented to the PMT and any cooperating agencies for comments. The consultant keeps refining the DEIS in response to comments received from the PMT and other agencies until FHWA is satisfied that all the comments have been appropriately addressed. Once FHWA has approved the DEIS, the formal

public hearing is scheduled to receive comments from broader audiences, and corresponding revision based on the comments are prepared.

12) Identify Preferred Alternatives: According to the Council on Environmental Quality (CEQ) regulations, a preferred alternative must be identified in the Final Environmental Impact Statement (FEIS). However, INDOT and FHWA made an agreement to identify a preferred alternative in the DEIS by all means. After analyzing and screening all feasible alternatives, and reviewing all the public and agency comments on DEIS, INDOT can recognize the preferred alternative by issuing a separate letter or other decision document to other lead agencies and get their approval. Once the identification of the preferred alternative is officially approved, the "subsequent NEPA document should disclose that preference" (INDOT and FHWA 2007).
13) Complete Final Environmental Documents: All essential public and agency comments on the DEIS are addressed in the Final Environmental Impact Statement (FEIS). Once the preliminary FEIS is prepared, it is distributed to FHWA for review. After all comments from FHWA have been sufficiently resolved, the FEIS is forwarded to FHWA again in a final form for signature. After the Record of Decision (ROD) is issued, INDOT informs the general public in the project area and the participating agencies of the ROD by publishing a public notice. All participating agencies will receive a copy of the ROD from FHWA, and the NEPA decision-making process gets officially ended.
14) Final Design: The final design of the projects begins once FHWA has approved the ROD. To further minimize the negative environmental impacts, INDOT continues to perfect the design of selected actions and mitigation measures. During the final design, the Production Management Division works as a supervisor to ensure that each of the environmental commitments has been implemented or considered, using the Commitments Summary form. If the mitigation items are attached with firm commitments for implementation during the NEPA process, they should be integrated into the project plans and specifications. If the mitigation items are attached with a commitment for further evaluation, they should be thoroughly evaluated to determine the feasibility of their implementation.

2.4.3.4 Main Elements and Features of the Streamlined Process

The following elements and features characterize the streamlined process:

1) Project coordination Team (INDOT and FHWA 2007): At the beginning of each project, a project coordination team is assembled to provide guidance on the NEPA process for the project consultant. The project coordination team consists of a representative from INDOT, Indiana Division of FHWA, Region 5 FTA, and the MPO, when the project study area is in an MPO area. The main purpose of the project coordination team is to improve coordination among planning agencies (INDOT and MPO), agencies with primary responsibility for the NEPA process (FHWA and INDOT), and Resource Agencies – without interference on their existing roles and responsibilities.

2) Agency Coordination (USDOT and FHWA 2007c): Besides the project coordination team, the streamlined procedure itself provided many opportunities for inter-agency coordination. In the early stage of the procedure, the project coordination team will invite resource and planning agencies to participate in the study, and send an Early Coordination Letter to encourage input from them. As the procedure moves on, it requires formal comment from agencies at crucial milestones including purpose and need development, preliminary alternatives analysis and screening, and preferred alternatives selection. At each crucial milestone, the consultant will prepare an Agency Review Package and forward it to Resource Agencies for a 60-day review. An interagency review meeting is held in the middle of the review period.
3) Conflict Resolution Process (USDOT and FHWA 2007c): In case there are issues that remain unresolved after the interagency coordination meetings, the streamlined procedure contains a conflict resolution process to address the problem. Agencies will try to identify any conflict at the earliest possible stage before it become decisive. If a conflict has been identified, a separate session will be held before or after the inter-agency review meeting to discuss and resolve the issue among staff from FHWA, INDOT, and the concerned agency. If the issue remains a problem after the first staff-level meeting, a second meeting with first-level supervisors will be held. After the second meeting, if there are still issues that remain unsolved, a meeting of executives will be scheduled by FHWA. The executives attending the meeting include the FHWA Division Administrator, the INDOT Deputy Commissioner of the Office of Planning and Multi-Modal Transportation and their peers.

2.4.4 Maine: Integrated Transportation Decision-Making Process

2.4.4.1 Overview and Goals

Initiated by the Maine Department of Transportation (MaineDOT), the Maine's Integrated Transportation Decision Making (ITD) process is aimed at integrating environmental concerns into the "entire transportation process, from planning to maintenance" (USDOT and FHWA 2002). The overall goals of ITD are to (USDOT and FHWA 2002):

- "Establish an environmental culture at MaineDOT through management support, program accountability, and institutionalization of an environmental ethic.
- Include human and natural environmental considerations in transportation decision-making by MaineDOT and its partners.
- Adopt clear and consistent environmental policies and operating guidance.
- Expand the use of collaboration and consensus building, both internally and externally, through stakeholder participation.
- Integrate existing state and Federal project review processes to eliminate duplication of effort. "

With the ITD process, the MaineDOT managed to finish the EIS for the Augusta River Crossing project in 41 months given the national median for completing an EIS for large projects is 51 months (USDOT and FHWA 2007d).

2.4.4.2 Agencies and Organizations Involved

Led by MaineDOT, the following agencies and organizations have played important roles in developing the ITD process:

- Federal Highway Administration (FHWA) Maine Division
- U.S. Army Corps of Engineers (U.S.ACE)
- U.S Environmental Protection Agency (U.S.EPA)
- U.S. Fish and Wildlife Service (U.S.FWS)
- National Marine Fisheries Service
- Maine Department of Environmental Protection
- Maine Department of Inland Fish and Wildlife
- Maine Department of Marine Resources
- Sea Run Salmon Commission
- Maine Historic Preservation Commission
- Maine Land Use Regulation Commission

2.4.4.3 Streamlined Process

Based on the Mid-Atlantic Transportation and Environment Streamlining Framework, MainDOT has developed a 10-step process which integrates the requirements of NEPA, Maine's Sensible Transportation Policy Act and the U.S. Army Corps of Engineers' Highway Methodology for Section 404 (USDOT and FHWA 2002). The following 10-step process is designed for projects that require an EIS or EA (USDOT and FHWA 2007d; MATE Task Force 2000):

1) Transportation Planning Process: As the state DOT's transportation plan lays the foundation of a fiscally constrained, efficient, and integrated transportation system, the linkage of transportation planning and project development occurs in this step. The linkage is achieved through early coordination and information sharing among regularoty and Resource Agencies and MPOs. The State DOTs shall provide opportunities for regulatory and Resource Agencies and MPOs to participate in the development of planning level purpose and need for transportation improvement. In this way, the transportation need and potential impacts to the community and the environment are balanced in early in the decision-making process.
2) Scoping: The purpose of this step is to provide transition from transportation planning to project development. In this step, MPOs and Resource Agencies will continue their involvement to assist in identifying the range and the complexity of issues to be addressed in the project. In this step, the responsibilities of different participating agencies, public involvement opportunities, as well as environmental assessment

methodologies are identified through inter-agency meetings and field inspections. This process will provide a smooth transition for those agencies involved in the project but not participants of state DOT's planning process.

3) Purpose and Need: In this step, the project team will refine the planning level purpose and need developed from state DOT's planning process with both input from participating agencies and the general public. The key element of this step is to achieve consensus among the participating agencies on the project level purpose and need, which will significantly reduce the redundant work and lower the possibility of conflicts in the future steps.
4) Development of Alternatives: This step requires the development of a full range of reasonable alternatives based on the project purpose and need identified in the last step. MPOs' involvement is crucial to the success of this step as they can provide state DOTs and other participating agencies with information about community interests and the project region.
5) Detailed Alternatives Analysis and Draft NEPA Document: Comprehensive evaluation of the impact of the alternatives will be conducted in this step. The evaluation will be based on the "alternatives' ability to address the project purpose and need as well as the potential impacts to the environmental, economic, and community resources". The evaluation will be combined with other detailed studies so that the draft NEPA document can be prepared and circulated in this step to receive comments from participating agencies.
6) Identification of Preferred Alternative and Conceptual Mitigation Plan: The primary mission of this step is to identify preferred alternative based on the evaluation in the previous step and refine the conceptual mitigation plan to ensure that "consensus is achieved among all agencies prior to the circulation of the Final NEPA document".
7) Final NEPA Document: Before the release of final NEPA document, the cooperating agencies will review and comment on the pre-final NEPA document to make sure "there are no objections to any changes to the NEPA document or to the preferred alternative". This will help state DOT and FHWA resolve the outstanding concerns before the circulation of final NEPA document.
8) Finding of No Significant Impact/Record of Decision: The preferred alternative identified in the final NEPA document shall be include in a conforming transportation plan and a transportation improvement program before the ROD is signed by FHWA. The ROD will link the NEPA project development and project final design through the coordination of the commitments in the ROD.
9) Final Project Design, Minimization & Mitigation Coordination, and Permit Decision: The purpose of this step is to "ensure that any necessary changes to the project impacts are coordinated with the appropriate agencies" in a timely manner. To achieve this purpose, this step requires coordination between state DOT and the regulatory and Resources Agencies after the final design of the project.

10) Project Implementation and Monitoring: As the final step of the whole process, its purpose is to "ensure that all project construction and mitigation activities are consistent with the decisions and commitments that were cooperatively made during project development." This step requires that the state DOT works together with all transportation, resource, and regulatory agencies as well as construction engineers to monitor the construction activities and mitigation measures to ensure compliance with permit conditions and environmental regulations.

The above ten steps link the planning and project development through improved coordination, and early and concurrent involvement of all agencies in the NEPA decision-making process. However, the 10-step process only provides a concept for linking planning and NEPA processes; it does not work as a standard process since the linkages are handled in different ways based on the level of planning.

2.4.4.4 Main Elements and Features of the Streamlined Process

To accelerate project delivery and promote coordination, the following features have been identified along with the Maine's ITD process (USDOT and FHWA 2007d):

1) Inter-agency coordination: The 10-step process is designed to improve inter-agency coordination in two different ways. The first one is monthly inter-agency meetings. The U.S. Army Corps of Engineers, U.S. EPA, U.S. Fish and Wildlife Service, National Marine Fisheries, State EPA, Inland Fish and Wildlife, Marine Resource, Sea Run Salmon Commission, Historic Preservation Commission, and State Land Use Regulation Commission formed an interagency group to review studies and projects and meet every month. The second one is the stakeholder concurrence. A stakeholder concurrence occurs at the end of each step when a crucial milestone is achieved. Typically, each stakeholder concurrence point is incorporated in the monthly meeting and is documented in the meeting minutes. After a formal concurrence, participating agencies will only revisit a milestone if there is essential new information that requires reconsideration.
2) Re-organization: Within the MaineDOT Bureau of Planning, an Environmental Coordination and Analysis unit was created. Project Development and Design unit was no longer in charge of preparing EIS and EA and the responsibility along with associated resources were moved to the Planning unit.
3) Delegation of responsibility of CEs: In May 2001, agreement with FHWA delegated to MaineDOT the authority and responsibility to approve eligible actions as Categorical Exclusions (CEs). The agreement set forth three types of actions to be candidates for CEs, which do not require individual FHWA approval. Since then, MaineDOT's Bureau of Planning is administratively responsible for preparing and processing information on eligible actions, and assuring these actions comply with criteria established in the agreement. MaineDOT also archives its actions and sends the documents to FHWA for review from time to time.

4) Regional Transportation Advisory Committees: Pursuant to the Maine's Sensible Transportation Policy Act, MaineDOT created the Regional Transportation Advisory Committees to allow for public participation and opportunity to comment on transportation planning decisions, capital investment decisions, project decisions, and compliance with the statewide transportation policy.

2.4.5 Integration Efforts in Illinois

Illinois has made several efforts to promote efficiency in the NEPA process within the State. During the past 10 years, IDOT has made three statewide implementation agreements with FHWA. The first statewide statement was made in 2004 to establish timeframes for EISs and EAs to promote good project management, identify project delays, and improve project delivery efficiency (USDOT and FHWA 2010). Another statewide agreement was made in 2005 to establish a process to coordinate NEPA and Clean Water Act Section 404 review of transportation projects for the purpose of expediting project construction and ensuring projects are completed on time and schedule (IDOT 2010). The most recent statewide statement was made in 2008 to rebuild the development and approval of CEs into a streamlined and efficient process through classifying projects into two CE groups (IDOT 2010).

3 CASE STUDIES – DATA COLLECTION (TASK 2)

In Task 1, the research team identified the efforts of integrating transportation planning and NEPA processes in Colorado, Florida, Indiana, and Maine; further evaluated their corresponding integrated processes in detail; and summarized the characteristics of their efforts.

In order to evaluate the impact of integration practices on the project development process, the research team collected project data from the four studied states: Colorado, Florida, Indiana, and Maine. The research team has identified 15 large highway projects with available public data. For comparative purposes, the research team collected data from projects that did and did not use an integrated/streamlined process. In addition to collecting data from the projects in the above 4 states, the research team has also selected 6 large highway projects from Illinois for the purpose of establishing a set of baseline cases. These baseline cases could be used in the future (after the implementation of integration practices) for assessing the performance of integrated processes. In total the research team identified 21 projects from the five states as case study projects. Table 2 summarizes the distribution of projects by state.

Table 2: Distribution of Case Study Projects by State

State	Total Number of Large Highway Projects	Number of Projects that Used an Integrated Process	Number of Projects that did NOT Use an Integrated Process
Colorado	4	1	3
Florida	2	2	0
Indiana	6	5	1
Maine	3	3	0
Illinois	6	0	6
Total	21	11	10

The research team collected the following data for each case study project:

1) Coordination data: the number of lead agencies and cooperating agencies, the number of inter-agency meetings, and the number of document preparers;
2) Process performance data: the preparation and processing times for Environmental Assessments (EAs) and Environmental Impact Statements (EISs), the number of alternatives that were analyzed in detail, and the EPA's rating of draft EISs;
3) Public involvement data: the length of public comment period once the EA/EIS is published, and the number of public hearings and meetings; and
4) Other related project data: including the geographical location of the project, the size and type of the project, the cost of the project, and the level of environmental impact of the project

The collected data is summarized in Appendix A (Excel Sheet).

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APPENDIX A (CASE STUDIES: COLLECTED DATA)

ICT Project R27-132
Incorporating NEPA into IDOT and MPO Planning Processes

Internal Interim Report #2

(DRAFT)

Submitted by: **(Include Name and Address of Organization)**	**Department of Civil and Environmental Engineering** **University of Illinois at Urbana-Champaign** 205 N. Mathews Ave. Urbana, IL 61801
Investigator(s):	**Nora El-Gohary**, Assistant Professor **Liang Liu**, Associate Professor **Khaled El-Rayes**, Professor **Xuan Lv**, Graduate Student
Corresponding Investigator Name:	Nora El-Gohary
Corresponding Investigator Phone:	(217) 333-6620
Corresponding Investigator Fax:	(217) 265-8039
Corresponding Investigator Email:	gohary@illinois.edu
For Period:	January 31, 2013-August 31, 2013
Status:	**DRAFT**

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1 INTRODUCTION

1.1 Project Motivation

The Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) issued a joint guidance on the environmental review process required by Section 6002 of the Safe, Accountable, Flexible, and Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) (FHWA 2006). The SAFETEA-LU provides new guidance on how to integrate transportation planning and the National Environmental Policy Act (NEPA) processes. However, the guidance does not provide well-defined and 'detailed enough' strategies or guidelines on how to integrate NEPA into transportation planning processes. Special emphasis is required on large-scale highway projects, since they tend to have a lengthy and costly NEPA process. There is a need to identify clear institutional strategies and guidelines on how to integrate NEPA into the IDOT Planning Process and the Metropolitan Planning Organization (MPO) Planning Process for large highway projects, in a manner to ensure, both, compliance with the NEPA and efficiency of project development in terms of time and cost.

1.2 Project Objectives

The main goal of this project is to assist IDOT in defining the guidelines on how to integrate the National Environmental Policy Act (NEPA) into the current IDOT Planning Process and Metropolitan Planning Organization (MPO) Planning Process for large-scale highway projects. Consultation will be sought from representatives of relevant state and federal regulatory and Resource Agencies, such as MPOs, FHWA, Illinois Environmental Protection Agency (IEPA), Illinois Dept. of Natural Resources (IDNR), and Illinois Historical Preservation Agency. The research team will seek guidance from the Technical Review Panel (TRP) for defining the list of relevant agencies and their representatives for consultation.

To accomplish this goal, the objectives of this project are to:

1) Provide a comprehensive review of literature of practices integrating NEPA into transportation planning processes in other states.
2) Gather feedback from inter and intra-departmental staff involved in the IDOT Planning Process, the MPO Planning Process, and the NEPA Process to evaluate the existing practices of integrating NEPA into transportation planning processes – for large highway projects.
3) Evaluate the impact of these practices on the project development process.
4) Identify (based on 1, 2, and 3 above) the key elements/practices that are needed to successfully integrate NEPA into the IDOT Planning Process and the MPO Planning Process for large-scale highway projects.
5) Develop a guidance document on how to integrate NEPA into the IDOT Planning Process and the MPO Planning Process for large-scale highway projects; and provide

recommendations on how to evaluate the integrated process. It is noted that the implementation of this guidance by MPOs will be voluntary.

1.3 Project Tasks and Deliverables

To accomplish the research objectives, the proposed methodology breaks down the research work into seven major tasks that will lead to five project deliverables, as shown in Fig. 1.

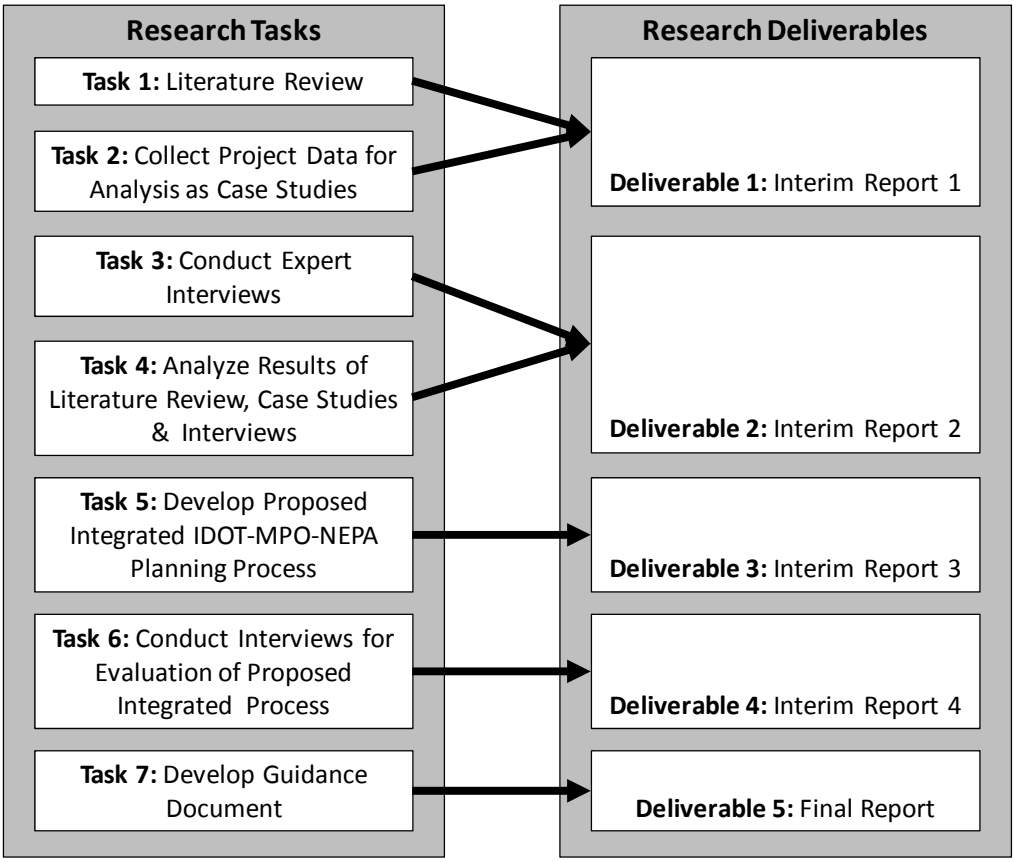

Figure 1 – Proposed Research Methodology

1.4 Scope and Organization of this Report

During this reporting period, the research team worked on the third and fourth tasks. Both tasks started on January 01, 2013 and the third and fourth tasks were completed on July 26, 2013 and August 31, 2013, respectively. This interim report intends to summarize the results from Task 3 and Task 4, i.e. summarize the expert interviews and present the results of the analysis of the literature review, case studies, and expert interviews. The following is a brief description of Task 3 and Task 4. Accordingly, the rest of the report is organized into three main sections: analysis of literature review, analysis of case studies, and expert interviews.

Task 3 – Conduct Expert Interviews: The research team worked on conducting a set of one-to-one expert interviews with staff from the following agencies to evaluate potential practices of integrating NEPA into transportation planning processes – for large-scale highway projects: IDOT (including IDOT Districts, IDOT Office of Planning and Programming, IDOT Bureau of Design and Environment), FHWA, MPOs, and Resource Agencies. Based on the analysis of the literature review (Task 4A), the research team developed a set of draft survey questionnaires for conducting the interviews in a structured manner. In the March 11, 2013 TRP meeting, the research team discussed the draft survey questionnaires with the TRP. Based on comments/discussions during the meeting, the research team revised the questionnaires. The research team then conducted a set of one-to-one meetings with members from the TRP as well as experts from IDOT and MPOs to solicit more detailed input about existing and potential practices – and accordingly revised/refined the questionnaires. After the final questionnaires were approved by the TRP, the research team conducted the interviews. Four sets of questionnaires were used: 1) a set for IDOT Districts, 2) a set for MPOs, 3) a set for resource agencies, 4) a set for IDOT Office of Planning and Programming, IDOT Bureau of Design and Environment, and FHWA. A total of 31 interviews were conducted. This task was completed on July 26, 2013.

Task 4 – Analyze Results of Literature Review, Case Studies, and Expert Interviews: The research team worked on analyzing the results of the literature review, case studies, and expert interviews. The research team analyzed the literature review by identifying the following based on the four studied states (Colorado, Florida, Indianan, and Maine): 1) motivations for the integration efforts, 2) potential areas of improvement, and 3) key integration elements/practices. For the case study projects, the research team analyzed the impact of integrating NEPA into transportation planning processes on the project development process based on the following data: 1) type of process implemented (traditional versus streamlined), 2) NEPA processing time, 3) number of major alternatives analyzed in the Final Environmental Impact Statement (FEIS), 4) number of inter-agency meetings, and 5) number of public hearings and meetings. The research team also conducted a set of correlation analyses to identify the factors associated (correlated) with a shorter NEPA processing time. For the expert interviews, the research team conducted descriptive statistical analysis on the survey results. The research team analyzed the survey results based on mean, median, and mode scores. The research team also compared the results across the four groups of respondents. Based on the survey results, the research team then identified a set of potential key practices for successfully integrating NEPA into transportation planning processes – for large-scale highway projects in Illinois.

2 ANALYSIS OF LITERATURE REVIEW (TASK 4A)

2.1 Purpose and Methodologies

In Task 1 (as documented in Interim Report 1), the research team conducted a comprehensive literature review of: 1) IDOT planning process, 2) MPO planning process, 3) NEPA process, and 4) practices of integrating NEPA into transportation planning processes in the four studied states (Colorado, Indiana, Florida, and Maine). In Task 4, the research team conducted an analysis of the literature review for the purpose of analyzing the integration practices of the four states and identifying potentially effective practices for consideration in Illinois. The research team analyzed the literature review by identifying the following based on the four studied states: 1) motivations for the integration efforts, which different state DOTs and MPOs aimed to address through the efforts of integrating NEPA into their planning processes, 2) potential areas of improvement, and 3) key integration elements/practices. The motivations for the integration efforts, potential areas of improvement, and key integration elements/practices were derived from the guidance documents of the streamlined processes of the four states. The analysis of the literature review also served as the basis for developing a set of draft questionnaires for the expert interviews (Task 3), which is addressed in Section 2.3.

2.2 Analysis of Results

As part of Task 1, the research team reviewed existing documents/studies that describe the current practices of integrating NEPA into transportation planning processes in other states. The research team placed special emphasis on states that have recently developed a formalized/documented guidance on how to integrate transportation planning into NEPA processes. The research team reviewed existing documents/studies that describe the current practices of integrating NEPA into transportation planning processes from four states: Colorado, Florida, Indiana, and Maine. Based on the analysis of the literature review, the research team identified motivations for the integration practices, potential areas of improvement, and key integration elements/practices, as summarized in the following sub-sections.

2.2.1 Motivations for the Integration Practices

Based on the literature review, the following issues within the four states have been recognized as the motivations behind integrating NEPA into their transportation planning processes:

1) Significant project decisions have been made in the state DOT planning process prior to the initiation of the NEPA process.
2) Project alternatives that were discarded during state DOT planning studies are sometimes reevaluated during subsequent NEPA studies.
3) Significant project decisions have been made in the state DOT planning process prior to the participation of Resource Agencies.

4) Resource Agencies are unfamiliar with the roles and responsibilities of state DOT in the transportation planning process.
5) Resource Agencies are unfamiliar with the roles and responsibilities of state DOT in the NEPA process.
6) Minimal considerations of environmental impacts of improvement strategies are given in developing the MPO's regional transportation plan.
7) Significant project decisions have been made in the MPO planning process prior to the initiation of the NEPA process.
8) Project alternatives that were discarded during MPO's transportation planning studies are sometimes reevaluated during subsequent NEPA studies.
9) Significant project decisions have been made in the MPO planning process prior to the participation of Resource Agencies.
10) No procedure for Resource Agencies to provide input in developing the MPO's regional transportation plan.
11) No measures to ensure Resource Agencies are informed of the contents of the MPO's regional transportation plan and regional transportation improvement program in a timely manner.
12) Little incentives for MPOs to involve Resource Agencies in developing the MPO's regional transportation plan.
13) Resource Agencies lack funding to participate in developing the MPO's regional transportation plan.
14) Resource Agencies lack staff to participate in developing the MPO's transportation plan.
15) Resource Agencies are unfamiliar with the roles and responsibilities of MPOs in the transportation planning process.
16) Resource Agencies are unfamiliar with the roles and responsibilities of MPOs in the NEPA process.

2.2.2 Potential Areas of Improvement

Based on the literature review, the research team identified the following six areas as potential areas of improvement for achieving better integration of NEPA process and transportation planning processes:

1) Streamlined processes for integrating NEPA and transportation planning processes which allow for early, continued, and in depth agency participation; early identification of environmental impacts and concerns; and reduced durations and efforts of project delivery.
2) Data management and decision-making support tools which provide a platform for capturing Resource Agencies' input and facilitating the assessment of environmental impacts.
3) Performance/assessment metrics (possibly standardized) for evaluating environmental impacts quantitatively and prioritizing projects and alternatives.

4) Well-defined procedure for effective inter-agency coordination.
5) Legal/formalized framework that fosters early and continued involvement of agencies in the streamlined processes (e.g. memorandum of understanding (MOU)).
6) Education, training, and outreach that provide state DOT, MPOs, Resource Agencies, and the general public with a common understanding of one another's roles and responsibilities in the streamlined processes.

2.2.3 Key Integration Practices

Based on the literature review, the research team identified a set of key integration practices, and organized them according to the above-defined six groups of improvement areas: streamlined processes and early, continued, and in-depth agency participation; data management and decision-making support tools; assessment metrics; effective inter-agency coordination; legal/formalized framework; and education, training and outreach.

1) Streamlined Processes and Early, Continued, and In-depth Agency Participation

This group of integration practices includes actions to establish the streamlined processes for integrating NEPA into transportation planning processes which would allow for early, continued, and in depth agency participation; early identification of environmental impacts and concerns; and reduced durations and efforts of project delivery:

- Environmentally screen a project as early as the project is first proposed during the state DOT planning process.
- Environmentally screen a project as early as the project is first proposed during the MPO planning process.
- Involve Resource Agencies in environmentally screening projects during the MPO planning process.
- Involve Resource Agencies in environmentally screening projects during the state DOT planning process.
- Use the environmental assessments that were conducted during the MPO planning process as the basis for analyzing the affected environment in the NEPA process.
- Use the environmental assessments that were conducted during the earlier state DOT planning process as the basis for analyzing the affected environment in the subsequent NEPA process.
- Apply quantitative criteria and metrics when conducting environmental screening/assessments.
- Establish procedures to facilitate the incorporation of MPO planning studies, analyses, or conclusions into the project-level NEPA environmental screening.
- Establish procedures to facilitate the incorporation of DOT planning studies, analyses, or conclusions into the project-level NEPA environmental screening.

2) Data Management and Decision-Making Support Tools

This group of integration practices includes actions to develop/use data management and decision-making support tools which provide a platform for capturing Resource Agencies' input and facilitating the assessment of environmental impacts:

- Use data management systems for standardizing, storing, updating, and sharing project data and environmental data.
- Use a GIS-based tool to assist in reviewing environmental data, and conducting environmental screening/assessments/reviews.

3) Assessment Metrics

This group of integration practices includes actions to identify and use assessment metrics (possibly standardized) for assessing environmental impacts (possibly quantitatively):

- Establish and use standardized environmental criteria and metrics to quantitatively assess the environmental impacts of project alternatives.

4) Effective Inter-Agency Coordination

This group of integration practices includes establishing well-defined procedure to ensure effective inter-agency coordination:

- Plan and conduct regular meetings with all partner agencies.
- Develop a coordination plan for coordinating public and agency participation with a schedule for inter-agency meetings, public hearings, and important milestones of the streamlined processes.
- Establish an Environmental Technical Advisory Committee to provide advice and coordinate transportation reviews for MPOs and state DOT.
- Designate a coordinator in state DOT and every MPO to be responsible for the full implementation, interagency coordination, and public coordination of the streamlined processes.
- Provide dedicated staff at Resource Agencies for cooperating/coordinating with state DOT and MPOs.
- Establish milestone points for formal stakeholder concurrence.
- Require formal agency review and comment at key milestones of the streamlined processes.

5) Legal/Formalized Framework

This group of integration practices include establishing legal/formalized framework that fosters early and continued involvement of agencies in the streamlined processes:

- Develop memoranda of understanding (MOU) with partner agencies to ensure early and continued agency involvement in the streamlined processes.
- Develop memoranda of agreements (MOA) with partner agencies ensure early and continuous agency involvement in the streamlined processes.

6) Education, Training and Outreach

This group of integration practices includes education, training, and public outreach that provide state DOT, MPOs, Resource Agencies, and the general public with a common understanding of one another's roles and responsibilities in the streamlined processes:

- Conduct workshops and/or webinars to provide state DOT, MPOs, Resources Agencies, and the general public with a common understanding of one another's roles and responsibilities in the streamlined processes.

3 ANALYSIS OF CASE STUDIES (TASK 4B)

3.1 Purpose and Methodologies

As an important part of the project development process, the NEPA process could have a direct impact on the length and the cost of the whole process. According to the NEPA Baseline Study for Evaluating the Performance of Environmental Streamlining conducted by Berger Group for FHWA (FHWA 2001), it was found that the NEPA process comprises approximately 27% to 28% of the total project development time, and a longer NEPA process is correlated with a longer project development process. Despite the correlation revealed by the study, the extent of impact of the NEPA process on the schedule and the cost of project delivery is still hard to measure/quantify.

To investigate the impact of integrating NEPA into transportation planning processes on the NEPA process, the research team identified 21 highway projects (15 from the four studied States and 6 from Illinois) as case study projects and collected their data. The research team classified the 21 projects into 2 groups: streamlined projects (projects implementing some form of streamlined transportation planning and NEPA processes), and traditional projects (projects not implementing streamlined processes). To assess the impact of adopting streamlined processes on the NEPA process, the research team compared the following factors of the two groups: 1) individual and average NEPA processing time, 2) average number of major alternatives analyzed in the Final Environmental Impact Statement (FEIS), 3) average number of inter-agency meetings, and 4) average number of public meetings. The research team adopted descriptive statistical methods to the above factors in order to compare the streamlined group and the traditional group. To assess the impact of adopting streamlined processes on the NEPA processing time, the research team also compared the NPEA processing time of each project in both groups with the national median of NEPA processing time for the same completion year

(data acquired from FHWA (FHWA 2012)). To further investigate the relationship between NEPA processing time and other factors, the research team conducted a set of correlation analyses between NEPA processing time and the other factors. **It is noted, however**, that the projects studied are not necessarily comparable, as they differ in terms of location, cost, complexity of project, complexity of environmental issues, etc. It is also noted that several other factors (e.g. complexity of environmental issues), other than (or in addition to) the adoption of a streamlined process, may affect both the NEPA processing time and the project development process. Therefore, the results of the case study analysis may not be conclusive, and a discussion of other factors influencing the NEPA processing time is provided in Section 3.4.

3.2 Description of the Data

In Task 3, in order to evaluate the impact of integration practices on the project development process, the research team collected project data from the four studied states: Colorado, Florida, Indiana, and Maine. The research team has identified 15 large highway projects with available public data. In addition to collecting data from the projects in the above 4 states, the research team has also selected 6 large highway projects from Illinois for the purpose of establishing a set of baseline cases. These baseline cases could be used in the future (after the implementation of integration practices) for assessing the performance of integrated processes. In total, the research team identified 21 projects from the five states as case study projects.

In selecting the case study projects, the research team focused on projects with the following two characteristics:

- An Environmental Impact Statement (EIS) was prepared according to the requirements of NEPA.
- The Record of Decision (ROD) was issued after the year 2004 so that project data are available in the EPA's EIS Database.

The research team selected case study projects for which an EIS was prepared for two reasons:

- NEPA and transportation planning integration has the greatest applicability in EIS projects, which normally take longer than projects requiring other levels of environmental documentation pursuant to NEPA.
- Information on EIS projects was already available and fairly complete, whereas such information on environmental assessment (EA) or categorical exclusion (CE) projects was either not available or not complete.

The research team relied on the EIS Database (U.S. EPA 2012) maintained by EPA as the main data source for the case studies. The EIS Database contains information on EISs prepared by federal agencies and filed after January 2004.

In total the research team identified 21 projects from the five states as case study projects. This number is statistically significant to represent all the highway projects for which an EIS was filed since 2004 in the five states with 95% confidence level and 10% confidence interval. The population size (i.e. total number of highway projects for which an EIS was filed since 2004 in the five states) is 27 (U.S. EPA 2012). Table 1 summarizes the distribution of projects by state and group.

For each case study project, the research team collected the following data:

1) NEPA processing time, where 'NEPA processing time' is defined as the time between the issuance of the Notice of Intent (NOI) in the Federal Register and the signing by FHWA of the project's Record of Decision (ROD).
2) Number of major alternatives analyzed in the Final Environmental Impact Statement (FEIS).
3) Number of inter-agency meetings during the NEPA process.
4) Number of public meetings and hearings during the NEPA process.
5) Estimated total project cost (in 2013 dollars).
6) Type of process applied: streamlined process (some form of streamlined transportation planning and NEPA processes were applied) versus traditional process (no streamlined processes were applied).

Table 1: Distribution of Case Study Projects by State and Group

State	Total Number of Large Highway Projects	Number of Streamlined Projects	Number of Traditional Projects
Colorado	4	1	3
Florida	2	1	1
Indiana	6	5	1
Maine	3	1	2
Illinois	6	0	6
Total	21	8	13

3.3 Data Analysis

The 21 case study projects have an average estimated project cost of $889.42 million. As shown in Table 1, eight projects have adopted streamlined NEPA and transportation planning processes and were classified into the streamlined group, while the remaining 13 projects were classified into the traditional group. As shown in Table 2 and Figure 2, the average NEPA processing time for all of the 21 case study projects is 75 months. The average NEPA processing time for projects in the streamlined group and the traditional group is 66 months and 80 months, respectively.

Table 2: NEPA Processing Time

Project Classification	NEPA Processing Time (months)	
	Mean	Standard Deviation
Overall	75	34.8
Streamlined	66	20.04
Traditional	80	41.28

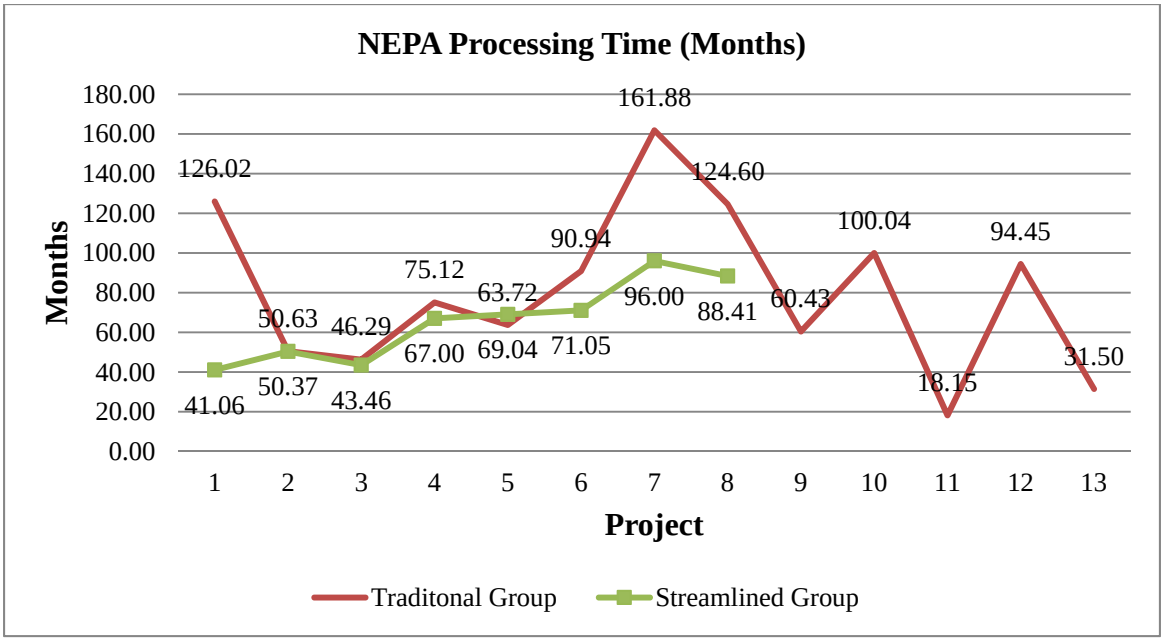

Figure 2 – A Comparison of NEPA Processing Time across Both Groups (Streamlined Group and Traditional Group)

The research team also compared the NEPA processing time of each project in the two groups with the national median of NEPA processing time for the same completion year, as per Figure 3 and Figure 4 (data acquired from FHWA (FHWA 2012)). As illustrated in Table 3, among the 21 studied projects, 11 projects have a NEPA processing time shorter than the national median. Seventy five percent (75%) and 38% of the projects in the streamlined group and the traditional group, respectively, completed their NEPA process shorter than the national median.

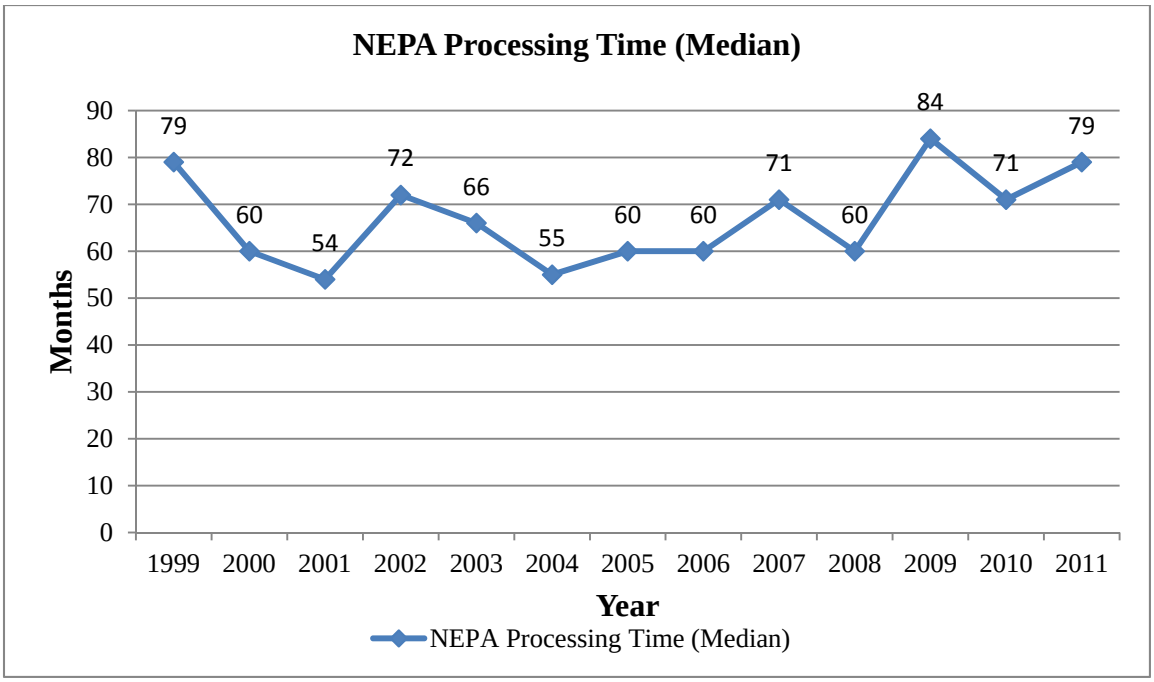

Figure 3 - National Median of NEPA Processing Time by Year

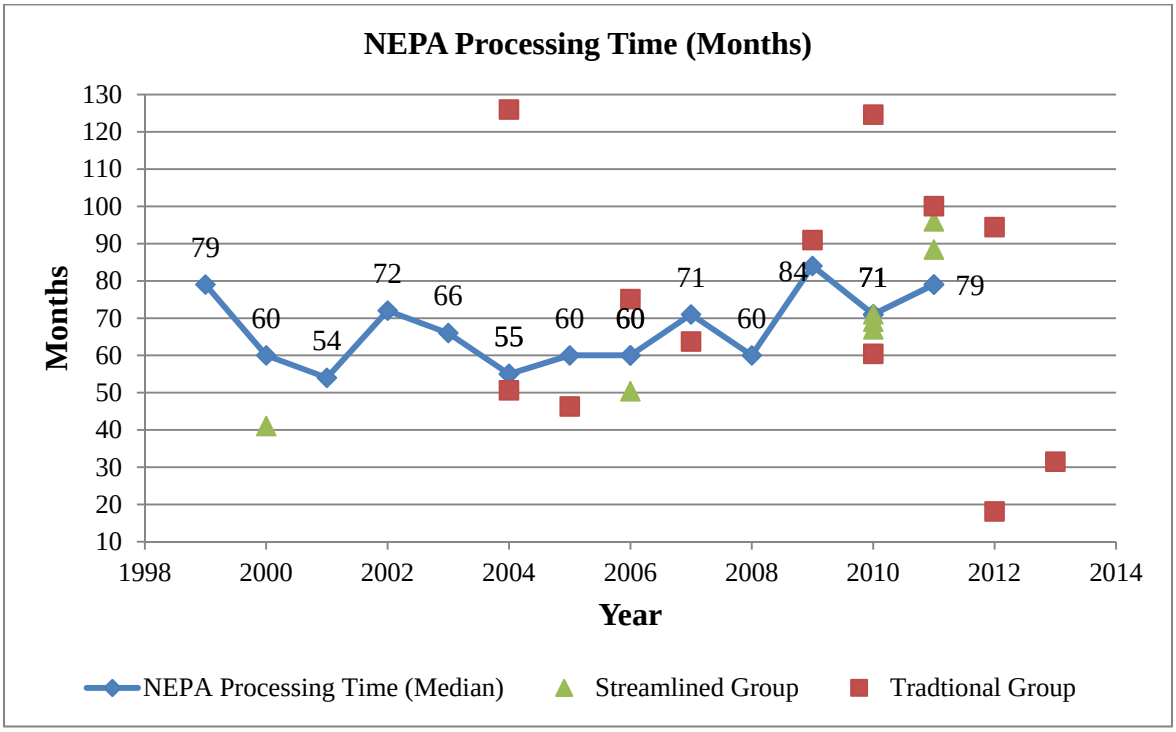

Figure 4 – A Comparison of NEPA Processing Time among Streamlined Group, Traditional Group, and National Median

Table 3: NEPA Processing Time (Compared with National Median)

Project Classification	Number of Projects	# of Projects Shorter Than National Median*	# of Projects Longer Than National Median*	% of Projects Shorter Than National Median*	% of Projects Longer Than National Median*
Overall	21	11	7	52%	33%
Streamlined	8	6	2	75%	25%
Traditional	13	5	5	38%	38%

* These results exclude 3 projects for which the NEPA process was completed in the year 2012 and 2013, since the national medians of NEPA processing time are not available for 2012 and 2013.

The research team also conducted a set of correlation analyses to identify the factors associated (correlated) with a shorter NEPA processing time, using Pearson's r correlation coefficient (Pearson's r). As shown in Table 4, the correlation coefficient of the following two factors is 0.21: 1) streamlined processes adopted and 2) NEPA processing time. Although not conclusive due to possible variability in project characteristics (as noted above), these data suggest that adopting streamlined transportation planning and NEPA processes is correlated with shorter NEPA processing time.

Table 4: Correlation Analysis (Streamlined Process Adopted & NEPA Processing Time)

Factor Pair	Pearson's r	Interpretation of Pearson's r
Streamlined Process Adopted & NEPA Processing Time	-0.21	Negative Correlation

As per Table 5, for all case study projects, an average of 5.76 alternatives were analyzed in their Final Environmental Impact Statement (FEIS), while 5.50 and 5.92 alternatives were analyzed for the streamlined group and the traditional group, respectively. As per Table 6, the correlation coefficient (Pearson's r) of the following two factors is -0.08: 1) streamlined processes adopted, and 2) number of alternatives analyzed in FEIS. Although not conclusive due to possible variability in project characteristics, these data suggest that adopting streamlined transportation planning and NEPA processes is correlated with fewer number of alternatives analyzed in the FEIS.

Table 5: Number of Major Alternatives Analyzed in FEIS

Project Classification	Number of Major Alternatives Analyzed in FEIS	
	Mean	Standard Deviation
Overall	5.76	2.64
Streamlined	5.50	1.77
Traditional	5.92	3.12

Table 6: Correlation Analysis (Streamlined Process Adopted & Number of Alternatives Analyzed in FEIS)

Factor Pair	Pearson's r	Interpretation of Pearson's r
Streamlined Process Adopted & Number of Alternatives Analyzed in FEIS	-0.08	Negative Correlation

As per Table 7, for all case study projects, an average of 35.9 inter-agency meetings were held during the NEPA process, with an average number of 35.25 and 36.33 meetings for the streamlined group and the traditional group, respectively. As per Table 8, the correlation coefficient (Pearson's r) of the following two factors is -0.02:1) streamlined processes adopted, and 2) number of inter-agency meetings. Although not conclusive due to possible variability in project characteristics, these data suggest that adopting streamlined transportation planning and NEPA processes is correlated with a fewer number of inter-agency meetings. The difference in the number of inter-agency meetings could be interpreted as an indication that projects adopting streamlined processes have a higher efficiency of inter-agency coordination.

Table 7: Number of Inter-Agency Meeting

Project Classification	Number of Inter-Agency Meetings	
	Mean	Standard Deviation
Overall	35.90	31.50
Streamlined	35.25	28.33
Traditional	36.33	34.68

Table 8: Correlation Analysis (Streamlined Process Adopted & Number of Inter-Agency Meetings)

Factor Pair	Pearson's r	Interpretation of Pearson's r
Streamlined Process Adopted & Number of Inter-Agency Meetings	-0.02	Negative Correlation

As per Table 9, for all case study projects, an average of 23.48 public meetings and hearings were held during the NEPA process, with an average of 35.48 and 16.15 for the streamlined

group and the traditional group, respectively. As per Table 10, the correlation coefficient (Pearson's r) of the following two factors is 0.41: 1) streamlined processes adopted and, 2) number of public meetings and hearings. Although not conclusive due to possible variability in project characteristics, these data suggest that adopting streamlined transportation planning and NEPA processes is correlated with more public meetings and hearings. The difference in the number of public meetings and hearings could be interpreted as an indication that projects adopting streamlined processes have a higher level of public involvement.

Table 9: Number of Public Meetings and Hearings

Project Classification	Number of Public Meetings and Hearings	
	Mean	**Standard Deviation**
Overall	23.48	23.21
Streamlined	35.38	31.35
Traditional	16.15	13.12

Table 10: Correlation Analysis (Streamlined Process Adopted & Number of Public Meetings and Hearings)

Factor Pair	Pearson's r	Interpretation of Pearson's r
Streamlined Process Adopted & Number of Public Meetings and Hearings	0.41	Positive Correlation

So, in summary, based on the results, the following factors are associated with the adoption of streamlined processes:

- Shorter NEPA processing time
- Fewer major alternatives analyzed in the FEIS
- Fewer inter-agency meetings
- More public meetings and hearings

To further investigate the association between NEPA processing time and other factors, the research team conducted a series of correlation analyses. The results of the analyses are shown in Table 11. Based on the results, the following factors are associated with a shorter NEPA processing time:

- Adopting streamlined processes
- Fewer major alternatives analyzed in the FEIS
- More inter-agency meetings
- More public meetings and hearings

Table 11: Correlation Analysis (NEPA Processing Time & Other Factors)

Factor Pair	Pearson's r	Interpretation of Pearson's r
NEPA Processing Time & Streamlined Processes Adopted	-0.21	Negative Correlation
NEPA Processing Time & Number of Major Alternatives Analyzed in FEIS	0.37	Positive Correlation
NEPA Processing Time & Number of Inter-Agency Meetings	-0.12	Negative Correlation
NEPA Processing Time & Number of Public Meetings and Hearings	-0.24	Negative Correlation

3.4 Other Factors Influencing the NEPA Processing Time

In addition to the factors identified above, there are a number of other factors that may have an impact on the NEPA processing time. The FHWA has conducted a series of research on the factors influencing the timeliness of the NEPA process. In 2000, the FHWA Headquarters Office of NEPA Facilitation conducted a nationwide survey on projects for which an environmental impact statement (EIS) had been in preparation of 5 years or longer (FHWA 2000). One of the questions of the survey asked about the reasons for why the NEPA process was completed in five or more years. According to the survey results (FHWA 2000), 32.5 % of the respondents chose the lack of funding or low priority as the reason, 16% of the respondents chose local controversy as the reason, and 13% of the respondents chose complex project as the reason. In addition to these main reasons, other identified reasons included Resource Agencies review, change in project scope, wetland and hazardous materials and items issues, etc. The results of the survey are summarized in Figure 5.

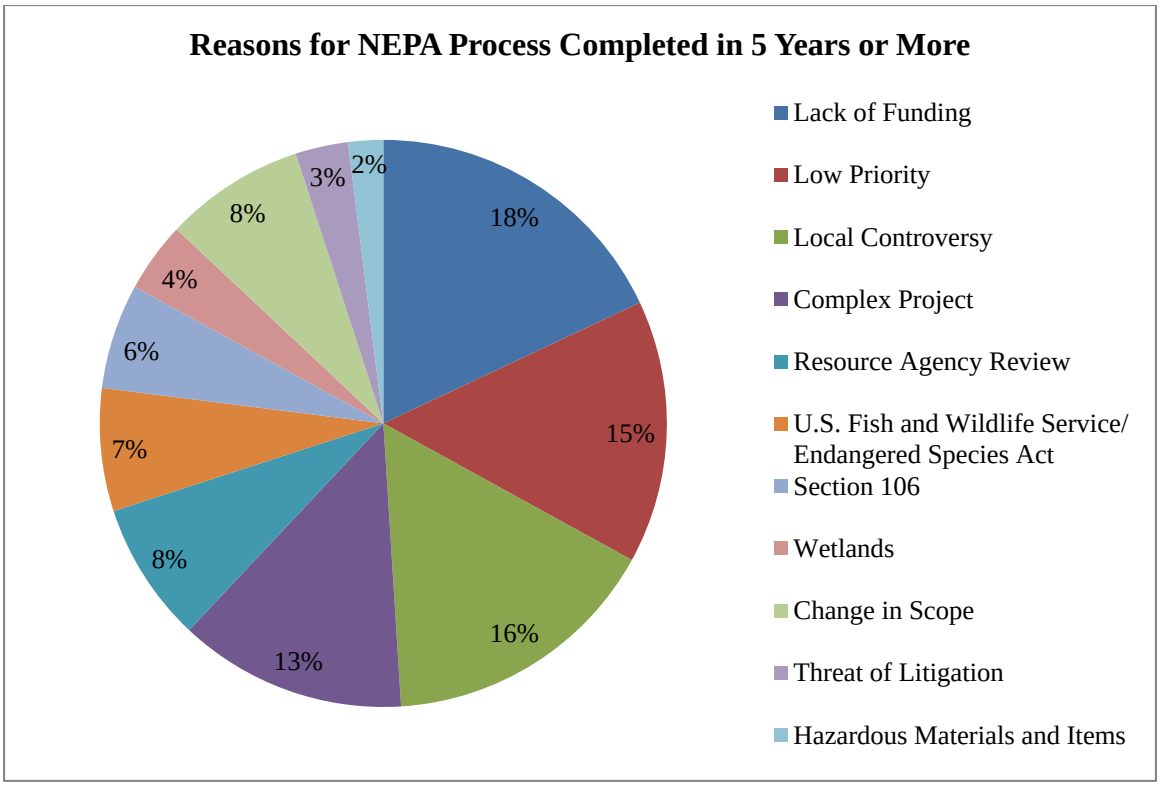

Figure 5 - Reasons for NEPA Process Completed in 5 Years or More (FHWA 2000)

Later, FHWA conducted a similar survey on two sets of projects completed in Fiscal year 2002 (FHWA 2002): one set of projects managed to complete its NEPA process in 3 years or less, the other set of projects competed its NEPA process in 5 years or more. The reasons for why the NEPA process of the projects was completed within 3 years or over 5 years were identified during the survey. In terms of the reasons for completing the NEPA process within 3 years, 43% of the respondents chose early agency coordination as the main reason. Other reasons included supplemental as a result of a court ruling, established project milestones, early public involvement, and political pressure. The results are summarized in Figure 6.

As for the reasons for completing the NEPA process in 5 years or longer, 24% of respondents chose low priority by the state as the main reason, and 16% of the respondents chose the complex nature of the project. Other reasons included Section 106 consultation, change in project scope, poor consultant work, etc. The results are summarized in Figure 7.

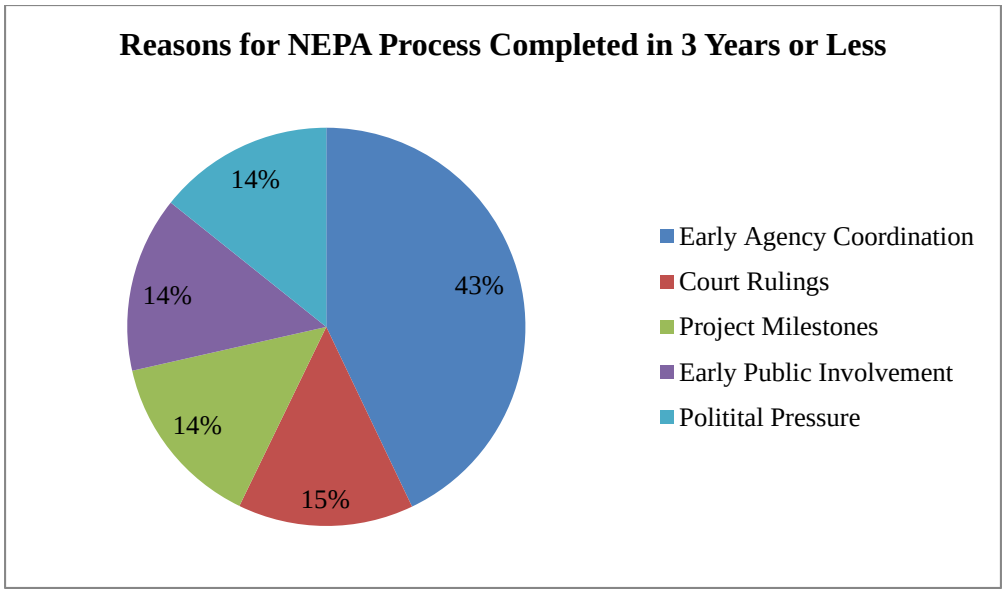

Figure 6 - Reasons for NEPA Process Completed in 3 Years or Less (FHWA 2002)

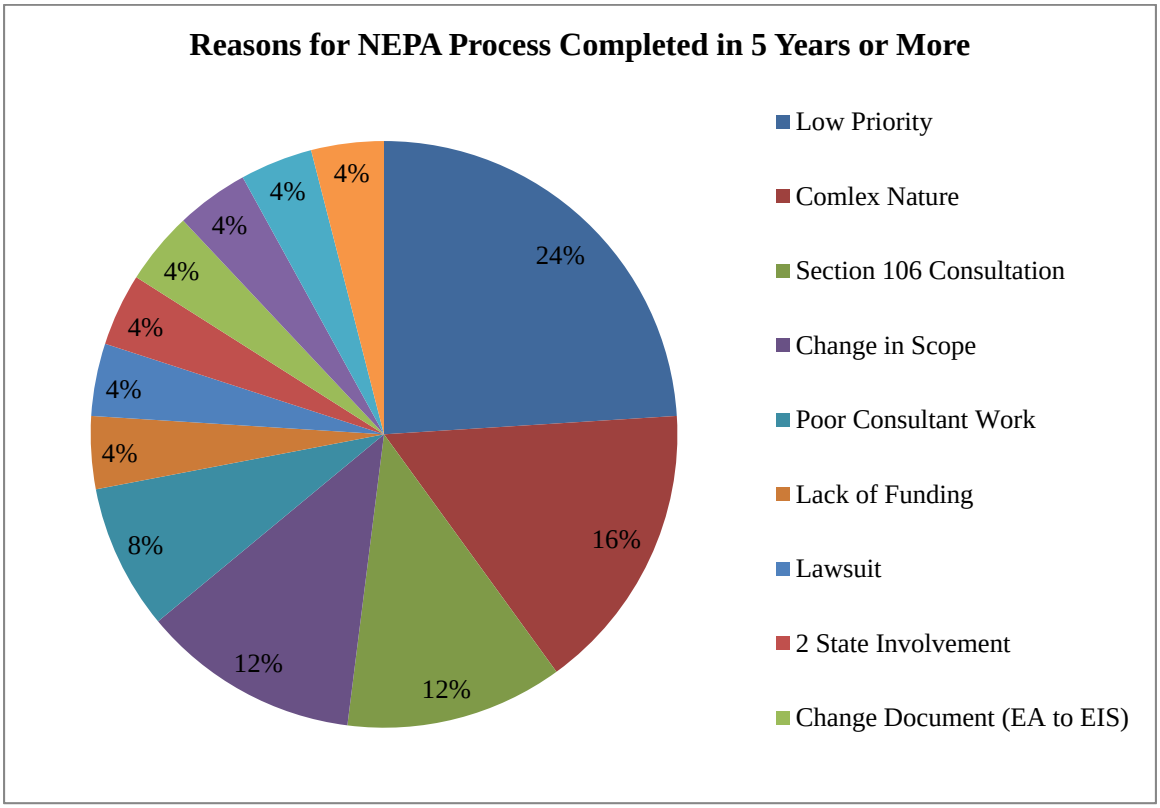

Figure 7 - Reasons for NEPA Process Completed in 5 Years or More (FHWA 2002)

4 EXPERT INTERVIEWS (TASK 3 AND TASK 4C)

4.1 Purpose and Methodologies

The research team worked on conducting a set of one-to-one expert interviews with staff from the following agencies to evaluate potential practices integrating NEPA and transportation planning processes – for large-scale highway projects: IDOT (including IDOT Districts, IDOT Office of Planning and Programming, IDOT Bureau of Design and Environment), FHWA, MPOs, and Resource Agencies. Based on the analysis of the literature review (Task 4A), the research team first consolidated the identified integration practices into a set of concise questions, then used these questions to develop a set of draft survey questionnaires for conducting the interviews in a structured manner. In the March 11, 2013 TRP meeting, the research team discussed the draft survey questionnaires with the TRP. Based on comments/discussions during the meeting, the research team revised the questionnaires. The research team then conducted a set of one-to-one meetings with members from the TRP as well as experts from IDOT and MPOs to solicit more detailed input about existing and potential practices – and accordingly revised/refined the questionnaires. One of the purposes of the meetings was to identify potential practices that would be applicable to Illinois. After the final questionnaires were approved by the TRP, the research team conducted the interviews. Four sets of questionnaires were used: 1) a set for IDOT Districts, 2) a set for MPOs, 3) a set for resource agencies, 4) a set for IDOT Office of Planning and Programming, IDOT Bureau of Design and Environment, and FHWA. A total of 31 interviews were conducted.

4.2 Survey Design

Each interview consisted of two parts. The first part of the interview covered a presentation about the motivation and scope of the project. In the second part of the interview, the respondents were asked to complete the questionnaire. As described in the previous sub-section, four sets of questionnaires were used. Each questionnaire was composed of three main sections: 1) Section 1: respondent information, Section 2: current situation, and Section 3: potential integration practices. Section 1 aimed at collecting the following respondent information: name, contact information, agency he/she represents, and years of experience. Figure 8 shows a snapshot of the respondent information page.

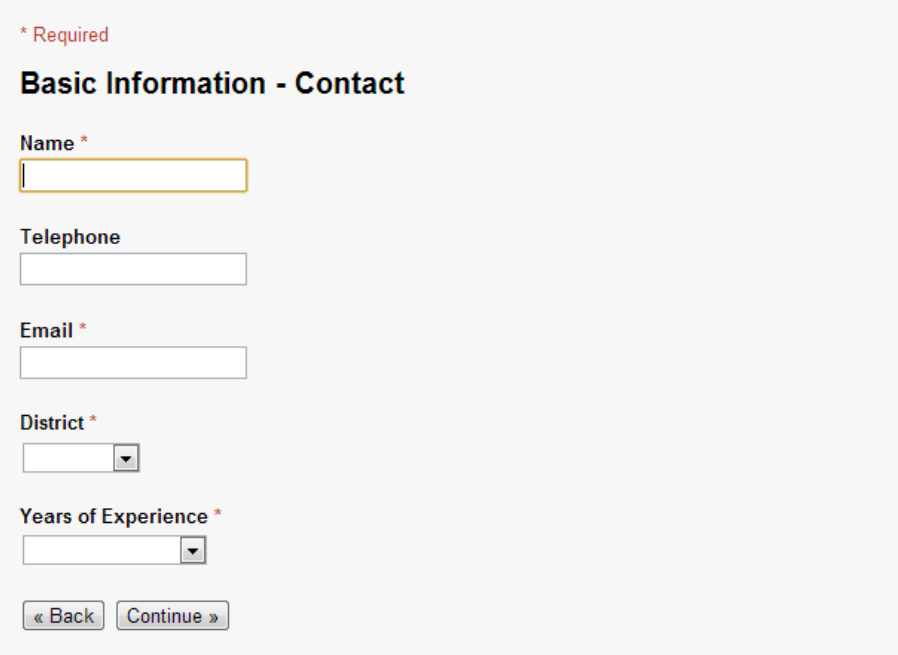

Figure 8 – Questionnaire: A Sample Page from Section 1 (Respondent Information)

Section 2 aimed at collecting data about the current situation of the different agencies in terms of their transportation planning and NEPA processes, such as the environmental screening tool the agency uses and the planning studies the agency conducts. Figure 9 shows a sample from Section 2.

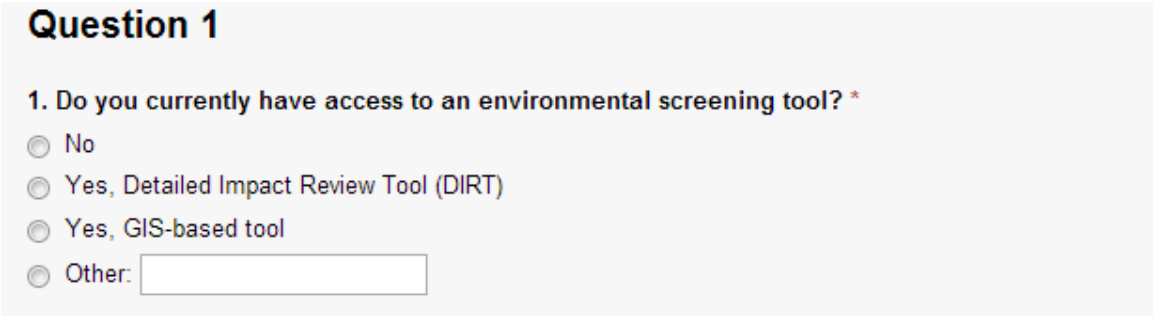

Figure 9 – Questionnaire: A Sample Question from Section 2 (Current Situation)

Section 3 aimed at collecting data about the opinion of respondents about the recommended potential integration practices. A typical question starts with “do you agree” and is followed by the recommended practices. A six-point Likert scale was used to record the responses, with 6 being the most favorable, as follows:

- Strongly Agree: 6
- Agree : 5
- Somewhat Agree : 4

- Somewhat Disagree: 3
- Disagree: 2
- Strongly Disagree: 1

Figure 10 shows a sample question from Section 3.

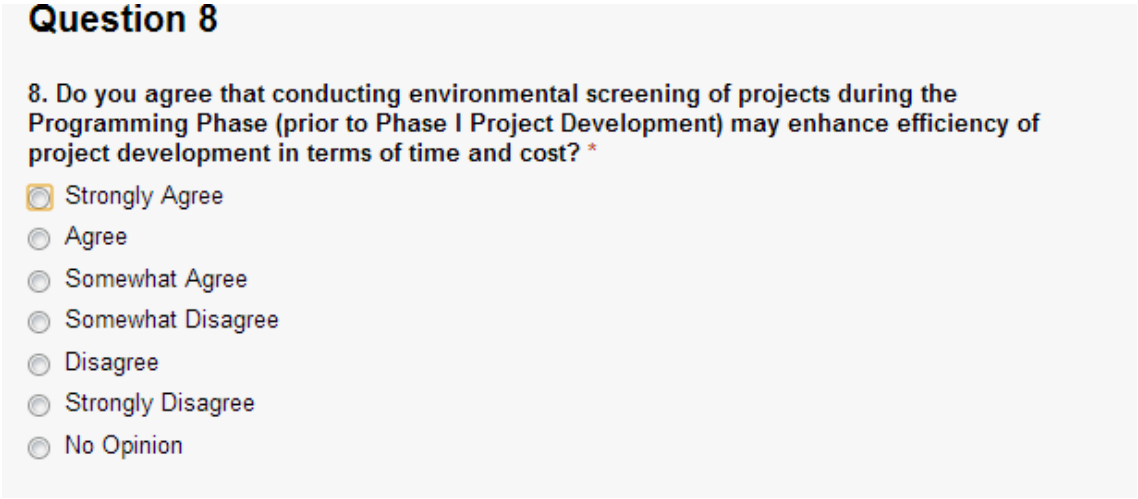

Figure 10 - Questionnaire: A Sample Question from Section 3 (Potential Integration Practices)

4.3 Survey Results and Data Analysis

The research team conducted a total of 31 one-to-one interviews including 21 face-to-face meetings and 10 online meetings. The preferred method was face to face, and online was only used if so desired by the respondent. The following sub-sections summarize the results of the survey and their analysis.

4.3.1 Respondent Information

The research team conducted a total of 31 survey interviews from 29 different agencies. A summary of the respondent information is shown in the Table 12.

Table 12: Summary of Respondent Information

Agency	Number of Respondents	Years of Experience	Agency Classification
IDOT District 1	1	Over 10 years	IDOT District
IDOT District 2	1	Over 10 years	IDOT District
IDOT District 3	1	Over 10 years	IDOT District
IDOT District 4	1	Over 10 years	IDOT District
IDOT District 5	1	Less than 1 year	IDOT District
IDOT District 6	1	Over 10 years	IDOT District
IDOT District 7	1	Over 10 years	IDOT District
IDOT District 8	1	Over 10 years	IDOT District
IDOT District 9	1	Over 10 years	IDOT District
FHWA	2	Over 10 years	IDOT and FHWA
IDOT	2	Over 10 years	IDOT and FHWA
Peoria/Pekin Urban Area Transportation Study	1	Over 10 years	MPO
Mclean County Transportation Study	1	Over 10 years	MPO
Spring-Sangamon County RPC	1	Over 10 years	MPO
Chicago Metropolitan Agency for Planning	1	Over 10 years	MPO
Danville Area Transportation Study	1	Over 10 years	MPO
Decatur Urbanized Area Transportation Study	1	Over 10 years	MPO
Dekalb Area Transportation Study	1	Over 10 years	MPO
Dubuque Metro Area Transportation Study	1	Over 10 years	MPO
Kankakee Area Transportation Study	1	Over 10 years	MPO
Bi-State Regional Commission	1	Over 10 years	MPO
Rockford Metropolitan Agency for Planning	1	Over 10 years	MPO
Champaign/Urbana Area Transportation Study	1	Over 10 years	MPO
Illinois Historic Preservation Agency	1	Over 10 years	MPO
Illinois Environmental Protection Agency	1	Over 10 years	Resource Agency
Illinois State Museum	1	Over 10 years	Resource Agency
Illinois Department of Agriculture	1	Over 10 years	Resource Agency
Illinois State Archaeological Survey	1	Over 10 years	Resource Agency
Illinois Department of Natural Resources	1	Over 10 years	Resource Agency

4.3.2 Current Situation

4.3.2.1 Environmental Screening Tool

Based on the survey results, among the 9 IDOT Districts, 1 District has access to GIS-based tool (Arc-GIS) only, 3 Districts have access to Detailed Impact Review Tool (DIRT) only, and 5 Districts have access to both GIS-based tool and DIRT. For MPOs, among the 12 interviewed MPOs, 9 MPOs have access to GIS-based tool (Arc-GIS) only, 2 MPOs do not have access to any environmental screening tool, and 1 MPO has access to digital map only. The results are summarized in Table 13.

Table 13: Survey Results - Environmental Screening Tool Used

Environmental Screening Tool	No. of IDOT Districts	No. of MPOs	Total
NO	0	2 (17%)	2 (10%)*
Yes, DIRT	3 (33%)	0	3 (14%)*
Yes, GIS-based Tool	1 (11%)	9 (75%)	10 (48%)*
Yes, Both	5 (56%)	0	5 (24%)*
Yes, Other	0	1 (8%)	1 (5%)*
Total Responses	9	12	21

* These percentages do not sum up to 100% due to rounding.

4.3.2.2 Environmental Screening during the Planning Phase

Table 14 summarizes the various planning studies conducted by MPOs (the 12 interviewed MPOs). As per Table 15, all of the 12 MPOs take environmental considerations into account when conducting their planning studies. But, as per Table 16, during the planning phase, only 3 MPOs conduct an environmental screening of projects when developing their long range transportation plan (LRTP), while the other 9 MPOs do not. Conducting environmental screening, here, refers to the review of environmental impacts of individual projects by comparing the locations of projects and the locations of resources; while taking environmental considerations in to account can take a lot of forms and is not as detailed/well-defined as environmental screening. For the 3 MPOs, the environmental screening of projects is only high-level (i.e. not detailed), and mainly involves overlaying the initial scope of the project with the digital maps of environmental resources, and does not involve the use of any specific environmental screening tool (as per Table 17). As for the timing of the screening, as per Table 18, the 3 MPOs conduct environmental screening of priority projects once they have been selected for inclusion in the MPO's LRTP, but PRIOR to the inclusion in the LRTP. As for the types of projects that get screened and the frequency of screening, as per Table 19 and Table 20, the 3 MPOs only conduct an environmental screening for "system expansion" projects, occasionally. During the interviews with the 3 MPOs, the research team also asked about whether MPOs coordinate with IDOT

districts when conducting an environmental screening of projects during the planning phase, and the 3 MPOs all stated that they do not coordinate with IDOT Districts in terms of environmental screening.

For the 9 MPOs which do not conduct environmental screening, the MPOs identified 3 main reasons for not conducting such screening: 1) Proposed projects in the LRTP may not provide detailed information to conduct environmental screening, 2) Proposed projects in the LRTP may not be implemented or be changed significantly as the LRTP covers a 25-year planning period, and 3) Conducting environmental screening of projects is not the responsibility of planners at the MPO level.

Table 14: Survey Results - Summary of Planning Studies by MPOs

MPOs	Planning Studies
Peoria/Pekin Urban Area Transportation Study	Corridor studies, travel demand studies, signal timing studies, economic development and sustainability project studies
Mclean County Transportation Study	Comprehensive plans and transportation planning documents, including long-range transportation plans and annual transportation improvement programs, corridor studies
Spring-Sangamon County RPC	Bicycle and pedestrian plans, economic corridor and freight studies
Chicago Metropolitan Agency for Planning	Comprehensive plans, corridor studies, water supply planning studies, travel demand model studies, congest mitigation and air quality studies
Danville Area Transportation Study	Long-range transportation plans, transportation improvement programs, unified planning work programs
Decatur Urbanized Area Transportation Study	Long-range transportation plans, and transportation improvement programs
Dekalb Area Transportation Study	Long-range transportation plans, and transportation improvement programs
Dubuque Metro Area Transportation Study	Long-range transportation plans, and transportation improvement programs
Kankakee Area Transportation Study	Long-range transportation plans, and transportation improvement programs
Bi-State Regional Commission	Long-range transportation plans, transportation improvement programs, bus-bike-walk plans (multi-purpose trial plans)
Rockford Metropolitan Agency for Planning	Corridor studies, bicycle and pedestrian plans, greenway plans, economic development and freight studies, and sustainable community studies
Champaign/Urbana Area Transportation Study	Long-range transportation plans, transportation improvement programs, and travel demand model studies

Table 15: Survey Results - Environmental Considerations during Planning Phase

Taking Environmental Considerations into Account during Planning Phase	MPOs
Yes	12 (100%)
No	0
Total Responses	12

Table 16: Survey Results - Environmental Screening during Planning Phase

Conducting Environmental Screening When Developing MPO's LRTP	MPOs
Yes	3 (25%)
No	9 (75%)
Total Responses	12

Table 17: Survey Results - Environmental Screening Tools during Planning Phase

Using Environmental Screening Tool When Conducting Environmental Screening during Planning Phase	MPOs*
No	3 (100%)
Yes, GIS-based Tool	0
Other	0
Total Responses*	3

*MPOs who conduct environmental screening in the planning phase.

Table 18: Survey Results -Time for Conducting the First Environmental Screening during Planning Phase

Time for Conducting the First Environmental Screening during Planning Phase	MPOs*
Screening a candidate project PRIOR to prioritization & selection of projects for inclusion in the MPO's long-range transportation plan (LRTP)	0
Screening priority projects once selected for inclusion in the MPO's LRTP, but PRIOR to inclusion in the LRTP	3 (100%)
Screening priority projects once included in the MPO's LRTP	0
Other	0
Total Responses*	3

*MPOs who conduct environmental screening in the planning phase.

Table 19: Survey Results - Type of Projects Screened during Planning Phase

Type of Project Screened during Planning Phase	MPOs*
'System maintenance' projects	0
'Bridge maintenance' projects	0
'Congestion mitigation' projects	0
'System expansion' projects	3 (100%)
Other	0
Total Responses*	3

*MPOs who conduct environmental screening in the planning phase.

Table 20: Survey Results - Frequency of Environmental Screening during Planning Phase

Frequency of Environmental Screening during Panning Phase	MPOs*
For every project	0
Sometimes	0
Occasionally	3 (100%)
Other	0
Total Responses*	3

*MPOs who conduct environmental screening in the planning phase.

4.3.2.3 Environmental Screening during the Programming Phase

As per Table 21, among the 9 IDOT Districts, 6 Districts conduct environmental screening of projects during the Programming Phase (prior to Phase I Project Development). As per Table 22, 2 out of the 6 Districts use only DIRT, 3 use a combination of both DIRT and GIS-based tool (Arc-GIS), and 1 uses Project Monitoring Application (PMA) to conduct the environmental screening. As for the timing of the screening, as per Table 23, 1 District screens a candidate project prior to the prioritization and selection of projects for inclusion in the multi-year program (MYP); while 5 Districts screen priority projects once they have been selected for inclusion in the MYP, but prior to the inclusion in the MYP. In terms of the types of the projects being screened, as per Table 24, 3 Districts conduct environmental screening on "system expansion" projects only, while 3 Districts screen every type of project. As for the frequency of the screening, as per Table 25, 3 Districts screen projects occasionally, while 3 Districts screen every project.

Table 21: Survey Results - Environmental Screening during Programming Phase

Conducting Environmental Screening during Programming Phase	IDOT Districts
Yes	6 (67%)
No	3 (33%)
Total Responses	9

Table 22: Survey Results - Environmental Screening Tools during Programming Phase

Using Environmental Screening Tool during Programming Phase	IDOT Districts*
No	0
Yes, DIRT	2 (33%)
Yes, GIS-based tool	0
Yes, both	3 (50%)
Yes, other	1 (17%)
Total Responses*	6

*IDOT Districts who conduct environmental screening in the programming phase.

Table 23: Survey Results - Time for Conducting the First Environmental Screening during Programming Phase

Time for Conducting the First Environmental Screening during the Programming Phase	IDOT Districts*
Screening a candidate project PRIOR to prioritization and selection of projects for inclusion in the multi-year program (MYP)	1 (17%)
Screening priority projects once selected for inclusion in the MYP, but PRIOR to inclusion in the MYP	5 (83%)
Screening priority projects once included in the MYP	0
Total Responses*	6

*IDOT Districts who conduct environmental screening in the programming phase.

Table 24: Survey Results - Types of Projects Screened during Programming Phase

Types of Projects Screened during Programming Phase	IDOT Districts*
'System maintenance' projects	0
'Bridge maintenance' projects	0
'Congestion mitigation' projects	0
'System expansion' projects	3 (50%)
Every type of project	3 (50%)
Total Responses*	6

*IDOT Districts who conduct environmental screening in the programming phase.

Table 25: Survey Results - Frequency of Environmental Screening during Programming Phase

Frequency of Environmental Screening during Programming Phase	IDOT Districts*
For every project	3 (50%)
Sometimes	0
Occasionally	3 (50%)
Other	0
Total Responses*	6

*IDOT Districts who conduct environmental screening in the programming phase.

4.3.3 Potential Integration Practices

This section of the questionnaire aimed at soliciting respondent feedback about potential integration practices. Four types of potential integration practices were included: practices related to environmental screening during the planning phase, practices related to environmental screening during the programming phase, practices related to conducting corridor studies and feasibility studies in compliance with NEPA, and practices related to early and continuous involvement and coordination. A typical question in this section starts with "do you agree" and is followed by a recommended practice. A six-point Likert scale was used to record the responses to these questions, with 6 being the most favorable, as follows:

- Strongly Agree: 6
- Agree : 5
- Somewhat Agree : 4
- Somewhat Disagree: 3
- Disagree: 2
- Strongly Disagree: 1

For analyzing the results, the research team calculated the mean, standard deviation, median, and mode scores, for both the different respondent groups (IDOT Districts, MPOs, IDOT Central Office and FHWA, and Resource Agencies) and for all the responses. The interpretation of the results was based on the median scores.

The following sub-sections provide a summary of the results, starting with the question and following by the results.

4.3.3.1 Environmental screening during the planning phase

The questionnaire asked a series of questions about potential integration practices for conducting environmental screening during the Planning Phase (during the preparation of the MPO's long

range transportation plan (LRTP)). The questions and the results are summarized below (Table 26-Table 30).

1. Do you agree that conducting environmental screening of projects during the Planning Phase (during the preparation of the MPO's long range transportation plan (LRTP)) may enhance efficiency of project development in terms of time and cost?

Table 26: Survey Results – Conducting Environmental Screening during Planning Phase

Conducting Environmental Screening During Planning Phase	MPOs	IDOT Central Office and FHWA	Resource Agencies	Total
Strongly Agree 6	0	0	0	0
Agree 5	0	0	4 (67%)	4(18%)*
Somewhat Agree 4	0	4 (100%)	2 (33%)	6 (27%)*
Somewhat Disagree 3	7 (59%)	0	0	7 (32%)*
Disagree 2	1 (8%)	0	0	1 (5%)*
Strongly Disagree 1	1 (8%)	0	0	1 (5%)*
No Opinion	3 (25%)	0	0	3 (14%)*
Total Responses Excl. NO Opinion	9 (75%)	4 (100%)	6 (100%)	19 (86%)
Total Responses	12	4	6	22
Mean Score	2.67	4	4.67	3.58
Median Score	3	4	5	4
Mode Score	3	4	5	3
Standard Deviation	0.71	0	0.52	1
Interpretation of Results(Based on Median)	Somewhat Disagree	Somewhat Agree	Agree	Somewhat Agree

* These percentages do not sum up to 100% due to rounding.

2. When would it be the most efficient time to conduct the first environmental screening of a project?

Table 27: Survey Results – Recommended Time for Conducting the First Environmental Screening during Planning Phase

Recommended Time for Conducting the First Environmental Screening during Planning Phase	MPOs*	IDOT Central Office and FHWA *	Resource Agencies*	Total*
Screening a candidate project PRIOR to prioritization and selection of projects for inclusion in the MPO's long range transportation plan (LRTP)	0	1 (25%)	1 (17%)	2 (20%)
Screening priority projects once selected for inclusion in the MPO's LRTP, but PRIOR to inclusion in the LRTP	0	1 (25%)	0	1(10%)
Screening priority projects once included in the MPO's LRTP	0	2 (50%)	2 (33%)	4 (40%)
Other (once the project is funded)	0	0	3 (50%)	3 (30%)
Total Responses*	0	4	6	10

* Agencies who favor conducting environmental screening during the planning phase.

3. What would be the most suitable tool to use in conducting the environmental screening?

Table 28: Survey Results – Recommended Tool for Conducting Environmental Screening during Planning Phase

Recommended Tool for Conducting Environmental Screening during Planning Phase	MPOs*	IDOT Central Office and FHWA *	Resource Agencies*	Total*
GIS-based Tool	0	1 (25%)	4 (67%)	5 (50%)
DIRT	0	1 (25%)	0	1 (10%)
Other	0	2 (50%)	2 (33%)	4 (40%)
Total Responses*	0	4	6	10

* Agencies who favor conducting environmental screening during the planning phase.

4. Do you agree that establishing and using standardized environmental criteria and metrics in environmentally assessing projects may support the execution of environmental screening in a consistent manner?

Table 29: Survey Results – Establishing and Using Environmental Criteria and Metrics for Environmental Screening during Planning Phase

Establishing and Using Standardized Environmental Criteria and Metrics during Planning Phase	MPOs*	IDOT Central Office and FHWA*	Resource Agencies*	Total*
Strongly Agree 6	0	0	0	0
Agree 5	0	2 (50%)	6 (100%)	8 (80%)
Somewhat Agree 4	0	2 (50%)	0	2 (20%)
Somewhat Disagree 3	0	0	0	0
Disagree 2	0	0	0	0
Strongly Disagree 1	0	0	0	0
No Opinion	0	0	0	0
Total Responses Excl. No Opinion	0	4 (100%)	6 (100%)	10 (100%)
Total Responses*	0	4	6	10
Mean Score	NA	4.5	5	4.8
Median Score	NA	4.5	5	5
Mode Score	NA	4,5**	5	5
Standard Deviation	NA	0.58	0	0.37
Interpretation of Results (Based on Median)	NA	Somewhat Agree - Agree	Agree	Agree

* Agencies who favor conducting environmental screening during the planning phase.

** The mode scores are 4 and 5.

5. What would be the most effective way(s) to disseminate the results of this environmental screening to blend into the NEPA process?

Table 30: Survey Results – Recommended Way(s) to Disseminate the Results of Environmental Screening during Planning Phase

Recommended Way(s) to Disseminate the Results of Environmental Screening conducted during Planning Phase	MPOs*	IDOT Central Office and FHWA*	Resource Agencies*	Total*
Informing Phase I consultants, IDOT in-house staff, and Resource Agencies involved in the NEPA process	0	3 (75%)	0	3 (30%)
Uploading and storing the data in a common database	0	1 (25%)	6 (100%)	7 (70%)
Other	0	0	0	0
Total Responses*	0	4	6	10

* Agencies who favor conducting environmental screening during the planning phase.

4.3.3.2 Environmental Screening during the Programming Phase

The questionnaire asked a series of questions about potential integration practices related to conducting environmental screening during the Programming Phase (prior to Phase I Project Development). The questions and the results are summarized below (Table 31-Table 35).

1. Do you agree that conducting environmental screening of projects during the Programming Phase (prior to Phase I Project Development) may enhance efficiency of project development in terms of time and cost?

Table 31: Survey Results -- Conducting Environmental Screening during Programming Phase

Conducting Environmental Screening during Programming Phase	IDOT Districts	IDOT Central Office and FHWA	Resource Agencies	Total
Strongly Agree 6	6 (67%)	0	1 (17%)	7 (37%)
Agree 5	1 (11%)	1 (25%)	2 (33%)	4 (21%)
Somewhat Agree 4	2 (22%)	2 (50%)	1 (17%)	5 (26%)
Somewhat Disagree 3	0	1 (25%)	0	1 (5%)
Disagree 2	0	0	0	0
Strongly Disagree 1	0	0	0	0
No Opinion	0	0	2 (33%)	2 (11 %)
Total Responses Excl. No Opinion	9 (100%)	4 (100%)	4 (67%)	17 (89%)
Total Responses	9	4	6	19
Mean Score	5.44	4	5	5
Median Score	6	4	5	5
Mode Score	6	4	5	6
Standard Deviation	0.88	0.82	0.82	1
Interpretation of Result (Based on Median)	Strongly Agree	Somewhat Agree	Agree	Agree

2. When would it be the most efficient time to conduct the first environmental screening of a project?

Table 32: Survey Results – Recommended Time for Conducting the First Environmental Screening during Programming Phase

Recommended Time for Conducting the First Environmental Screening during Programming Phase	IDOT Districts*	IDOT Central Office and FHWA*	Resource Agencies*	Total*
Screening a candidate project, at District level, PRIOR to prioritization and selection of projects for inclusion in the multi-year program (MYP)	6 (67%)	1 (33%)	0	7 (44%)**
Screening priority projects, at District level, once selected for inclusion in the MYP, but PRIOR to inclusion in the MYP	3 (33%)	0	0	3 (19%)**
Screening priority projects, at District level, once included in the MYP	0	2 (67%)	0	2 (13%)**
Other: Once the project is funded	0	0	4 (100%)	4 (25%)**
Total Responses*	9	3	4	16

* Agencies who favor conducting environmental screening during the programming phase.

** These percentages do not sum up to 100% due to rounding.

3. What would be the most suitable tool to use in conducting the environmental screening?

Table 33: Survey Results – Recommended Tool for Conducting Environmental Screening during Programming Phase

Recommended Tool for Conducting Environmental Screening during Programing Phase	IDOT Districts*	IDOT Central Office and FHWA*	Resource Agencies*	Total*
GIS-based Tool	5 (56%)	2 (67%)	0	7 (44%)**
DIRT	3 (33%)	1 (33%)	2 (50%)	6 (38%)**
Both	1 (11%)	0	0	1 (6%)**
Other (not an expert in this area)	0	0	2 (50%)	2 (13%)**
Total Responses*	9	3	4	16

* Agencies who favor conducting environmental screening during the programming phase.

** These percentages do not sum up to 100% due to rounding.

4. Do you agree that establishing and using standardized environmental criteria and metrics in environmentally assessing projects may support the execution of environmental screening in a consistent manner?

Table 34: Survey Result – Establishing and Using Environmental Criteria and Metrics for Environmental Screening during Programming Phase

Establishing and Using Standardized Environmental Criteria and Metrics during Programming Phase	IDOT Districts*	IDOT Central Office and FHWA*	Resource Agencies*	Total*
Strongly Agree 6	3 (33%)**	0	0	3 (19%)**
Agree 5	4 (44%)**	2 (67%)	4 (100%)	10 (63%)**
Somewhat Agree 4	1 (11%)**	1 (33%)	0	2 (13%)**
Somewhat Disagree 3	1 (11%)**	0	0	1 (6%)**
Disagree 2	0	0	0	0
Strongly Disagree 1	0	0	0	0
No Opinion	0	0	0	0
Total Responses Excl. No Opinion	9 (100%)	3 (100%)	4 (100%)	16 (100%)
Total Responses*	9	3	4	16
Mean Score	5	4.67	5	4.94
Median Score	5	5	5	5
Mode Score	5	5	5	5
Standard Deviation	1	0.58	0	0.77
Interpretation of Result (Based on Median)	Agree	Agree	Agree	Agree

* Agencies who favor conducting environmental screening during the programming phase.

** These percentages do not sum up to 100% due to rounding.

5. What would be the most effective way(s) to disseminate the results of this environmental screening to blend into the NEPA process?

Table 35: Survey Results – Recommended Way(s) to Disseminate the Results of Environmental Screening during Programming Phase

Recommended Ways to Disseminate the Results of Environmental Screening conducted during Programming Phase	IDOT Districts*	IDOT Central Office and FHWA*	Resource Agencies*	Total*
Informing Phase I consultants, IDOT in-house staff, and Resource Agencies involved in NEPA process	7 (78%)	3 (100%)	0	10 (63%)**
Uploading and storing the data in a common database	2 (22%)	0	4 (100%)	6 (38%)**
Other	0	0	0	0
Total Responses*	9	3	4	16

* Agencies who favor conducting environmental screening during the programming phase.

** These percentages do not sum up to 100% due to rounding.

4.3.3.3 Conduct Corridor Studies and Feasibility Studies in Compliance with NEPA

This sub-section of the questionnaire asked a set of questions about potential integration practices related to requiring corridor studies and feasibility studies to be conducted in compliance with NEPA requirements. The questions and results are summarized below (Table 36-Table 37).

1. Do you agree that requiring corridor studies and feasibility studies to be conducted in compliance with NEPA requirements could help reduce both the time and cost of the project development process, since data from these studies could be incorporated into successive NEPA documents?

Table 36: Survey Results – Conducting Corridor Studies and Feasibility Studies in Compliance with NEPA Requirements

Conducting Corridor Studies and Feasibility Studies in Compliance with NEPA Requirements	IDOT Districts	IDOT Central Office and FHWA	Resource Agencies	Total
Strongly Agree 6	1 (11%)*	1 (25%)	0	2 (11%)*
Agree 5	4 (44%)*	3 (75%)	4 (67%)	11 (58%)*
Somewhat Agree 4	2 (22%)*	0	0	2 (11%)*
Somewhat Disagree 3	1 (11%)*	0	0	1 (5%)*
Disagree 2	0	0	0	0
Strongly Disagree 1	1 (11%)*	0	0	1 (5%)*
No Opinion	0	0	2 (33%)	2 (11%)*
Total Responses Excl. No Opinion	9 (100%)	4 (100%)	4	17 (89%)
Total Responses*	9	4	6	19
Mean Score	4.22	5.25	5	4.65
Median Score	5	5	5	5
Mode Score	5	5	5	5
Standard Deviation	1.48	0.5	0	1.17
Interpretation of Result (Based on Median)	Agree	Agree	Agree	Agree

* These percentages do not sum up to 100% due to rounding.

2. Do you agree that it would be beneficial to provide Phase I consultants involved in preparing corridor studies and/or feasibility studies with environmental screening information (e.g. information from the Detailed Impact Review Tool (DIRT))?

Table 37: Survey Results – Providing Phase I Consultants with Environmental Screening Information

Providing Phase I Consultants involved in Corridor and/or Feasibility Studies with Environmental Screening Information	IDOT Districts*	IDOT Central Office and FHWA*	Resource Agencies*	Total*
Strongly Agree 6	1 (14%)**	0	0	1 (7%)**
Agree 5	3 (43%)**	4 (100%)	2 (50%)	9 (60%)**
Somewhat Agree 4	1 (14%)**	0	0	1 (7%)**
Somewhat Disagree 3	1 (14%)**	0	0	1 (7%)**
Disagree 2	0	0	0	0
Strongly Disagree 1	0	0	0	0
No Opinion	1 (14%)**	0	2 (50%)	3 (20%)**
Total Responses Excl. No Opinion	6 (86%)	4 (100%)	2 (50%)	12 (80%)
Total Responses*	7	4	4	15
Mean Score	4.67	5	5	4.83
Median Score	5	5	5	5
Mode Score	5	5	5	5
Standard Deviation	1.03	0	0	0.72
Interpretation of Result (Based on Median)	Agree	Agree	Agree	Agree

* Agencies who favor requiring corridor study and feasibility study in compliance with NEPA
** These percentages do not sum up to 100% due to rounding.

4.3.3.4 Early and continuous involvement and coordination

This sub-section of the questionnaire asked questions about potential integration practices related to early and continuous involvement and coordination among different agencies participating in transportation planning and NEPA processes. The first question is a general question about inter-agency coordination, while the following 10 questions are about specific actions that are aimed at promoting early and continuous involvement and coordination. The questions and the results are summarized below (Table 38-Table 48).

1. Do you agree that early and continuous involvement and coordination with IDOT/Districts, MPOs, Resource Agencies, and consultants may support the streamlining of transportation planning and environmental/NEPA processes, and in turn may enhance efficiency of project development in terms of time and cost?

Table 38: Survey Results – Early and Continuous Involvement and Coordination

Early and Continuous Involvement and Coordination with IDOT/Districts, MPOs, Resource Agencies, and Consultants	IDOT Districts	IDOT Central Office and FHWA	Resource Agencies	MPOs	Total
Strongly Agree 6	2 (22%)*	0	0	0	2 (6%)*
Agree 5	4 (44%)*	3 (75%)	6 (100%)	9 (75%)	22 (71%)*
Somewhat Agree 4	2 (22%)*	1 (25%)	0	3 (25%)	6 (19%)*
Somewhat Disagree 3	0	0	0	0	0
Disagree 2	0	0	0	0	0
Strongly Disagree 1	0	0	0	0	0
No Opinion	1 (11%)*	0	0	0	1 (3%)*
Total Responses Excl. No Opinion	8 (89%)	4 (100%)	6 (100%)	12 (100%)	30 (97%)
Total Responses	9	4	6	12	31
Mean Score	5	4.75	5	4.75	4.87
Median Score	5	5	5	5	5
Mode Score	5	5	5	5	5
Standard Deviation	0.76	0.5	0	0.45	0.51
Interpretation of Result (Based on Median)	Agree	Agree	Agree	Agree	Agree

*These percentages do not sum up to 100% due to rounding.

2. Do you consider the following way as potentially effective means for achieving early and continuous involvement and coordination: Ensuring early coordination between Districts and MPOs while preparing the long range transportation plans by MPOs?

Table 39: Survey Results – Ensuring Early Coordination while Preparing the LRTPs by MPOs

Ensuring Early Coordination between Districts and MPOs while Preparing the LRTPs by MPOs	IDOT Districts	IDOT Central Office and FHWA	Resource Agencies	MPOs	Total
Strongly Agree 6	4 (44%)*	0	0	9 (75%)	13 (42%)
Agree 5	4 (44%)*	4 (100%)	3 (50%)	3 (25%)	14 (45%)
Somewhat Agree 4	0	0	0	0	0
Somewhat Disagree 3	0	0	0	0	0
Disagree 2	0	0	0	0	0
Strongly Disagree 1	0	0	0	0	0
No Opinion	1 (11%)*	0	3 (50%)	0	4 (13%)
Total Responses Excl. No Opinion	8 (89%)	4 (100%)	3 (50%)	12 (100%)	27 (87%)
Total Responses	9	4	6	12	31
Mean Score	5.5	5	5	5.75	5.48
Median Score	5.5	5	5	6	5
Mode Score	5,6**	5	5	6	5
Standard Deviation	0.53	0	0	0.45	0.51
Interpretation of Result (Based on Median)	Agree - Strongly Agree	Agree	Agree	Strongly Agree	Agree

*These percentages do not sum up to 100% due to rounding.

** The mode scores are 5 and 6.

3. Do you consider the following way as potentially effective means for achieving early and continuous involvement and coordination: Engaging Resource Agencies in environmentally screening candidate projects during the Planning Phase and soliciting their feedback on potential environmental issues during the preparation of the long range transportation plans by MPOs?

Table 40: Survey Results – Engaging Resource Agencies in Environmental Screening during Planning Phase

Engaging Resource Agencies in Environmental Screening during the Planning Phase	IDOT Districts	IDOT Central Office and FHWA	Resource Agencies	MPOs	Total
Strongly Agree 6	4 (44%)*	0	0	0	4 (13%)
Agree 5	3 (33%)*	2 (50%)	2 (33%)	0	7 (23%)
Somewhat Agree 4	0	1 (25%)	2 (33%)	3 (25%)	6 (19%)
Somewhat Disagree 3	1 (11%)*	1 (25%)	1 (17%)	6 (50%)	9 (29%)
Disagree 2	0	0	0	0	0
Strongly Disagree 1	0	0	0	0	0
No Opinion	1 (11%)*	0	1 (17%)	3 (25%)	5 (16%)
Total Responses Excl. No Opinion	8 (89%)	4 (100%)	5 (83%)	9 (75%)	26 (84%)
Total Responses	9	4	6	12	31
Mean Score	5.25	4.25	4.2	3.33	4.23
Median Score	5.5	4.5	4	3	4
Mode Score	6	5	4,5**	3	3
Standard Deviation	1.04	0.96	0.84	0.5	1.11
Interpretation of Result (Based on Median)	Agree - Strongly Agree	Somewhat Agree - Agree	Somewhat Agree	Somewhat Disagree	Somewhat Agree

*These percentages do not sum up to 100% due to rounding.

** The mode scores are 4 and 5.

4. Do you consider the following way as potentially effective means for achieving early and continuous involvement and coordination: Engaging Resource Agencies in environmentally screening candidate projects during the Programming Phase and soliciting their feedback on potential environmental issues during the preparation of the multi-year program (MYP)?

Table 41: Survey Results – Engaging Resource Agencies in Environmental Screening during Programming Phase

Engaging Resource Agencies in Environmental Screening during the Programming Phase	IDOT Districts	IDOT Central Office and FHWA	Resource Agencies	MPOs	Total
Strongly Agree 6	0	0	0	0	0
Agree 5	5 (56%)	2 (50%)	2 (33%)	3 (25%)	12 (39%)
Somewhat Agree 4	3 (33%)	1 (25%)	2 (33%)	6 (50%)	12 (39%)
Somewhat Disagree 3	0	1 (25%)	1 (17%)	0	2 (6%)
Disagree 2	0	0	0	0	0
Strongly Disagree 1	0	0	0	0	0
No Opinion	1 (11%)	0	1 (17%)	3 (25%)	5 (16%)
Total Responses Excl. No Opinion	8 (89%)	4 (100%)	5 (83%)	9 (75%)	26 (84%)
Total Responses	9	4	6	12	31
Mean Score	4.63	4.25	4.2	4.33	4.38
Median Score	5	4.5	4	4	4
Mode Score	5	5	5	4	4,5*
Standard Deviation	0.52	0.96	0.84	0.5	0.64
Interpretation of Result (Based on Median)	Agree	Somewhat Agree - Agree	Somewhat Agree	Somewhat Agree	Somewhat Agree

* The mode scores are 4 and 5.

5. Do you consider the following way as potentially effective means for achieving early and continuous involvement and coordination: Establishing and using one common database for collecting, storing, updating, and accessing project data and environmental data, where data/feedback is provided and accessed by IDOT/Districts, MPOs, Resource Agencies, and consultants?

Table 42: Survey Results – Establishing and Using One Common Database

Establishing and Using One Common Database	IDOT Districts	IDOT Central Office and FHWA	Resource Agencies	MPOs	Total
Strongly Agree 6	3 (33%)	0	0	0	3 (10%)*
Agree 5	6 (67%)	4 (100%)	6 (100%)	9 (75%)	25 (81%)*
Somewhat Agree 4	0	0	0	3 (25%)	3 (10%)*
Somewhat Disagree 3	0	0	0	0	0
Disagree 2	0	0	0	0	0
Strongly Disagree 1	0	0	0	0	0
No Opinion	0	0	0	0	0
Total Responses Excl. No Opinion	9 (100%)	4 (100%)	6 (100%)	12 (100%)	31 (100%)
Total Responses	9	4	6	12	31
Mean Score	5.33	5	5	4.75	5
Median Score	5	5	5	5	5
Mode Score	5	5	5	5	5
Standard Deviation	0.5	0	0	0.45	0.45
Interpretation of Result (Based on Median)	Agree	Agree	Agree	Agree	Agree

*These percentages do not sum up to 100% due to rounding.

6. Do you consider the following way as potentially effective means for achieving early and continuous involvement and coordination: Developing Memorandums of Understanding (MOUs) or Programmatic Agreements (PAs) among agencies for supporting early and continuous involvement and coordination?

Table 43: Survey Results – Developing Memorandums of Understanding (MOUs) or Programmatic Agreements (PAs)

Developing Memorandums of Understanding (MOUs) or Programmatic Agreements (PAs)	IDOT Districts	IDOT Central Office and FHWA	Resource Agencies	MPOs	Total
Strongly Agree 6	3 (33%)	0	0	0	3 (10%)
Agree 5	5 (56%)	3 (75%)	4 (67%)*	9 (75%)	21 (68%)
Somewhat Agree 4	0	1 (25%)	1 (17%)*	3 (25%)	5 (16%)
Somewhat Disagree 3	0	0	1 (17%)*	0	1 (3%)
Disagree 2	0	0	0	0	0
Strongly Disagree 1	0	0	0	0	0
No Opinion	1 (11%)	0	0	0	1 (3%)
Total Responses Excl. No Opinion	8 (89%)	4 (100%)	6 (100%)	12 (12%)	30 (97%)
Total Responses	9	4	6	12	31
Mean Score	5.38	4.75	4.5	4.75	4.87
Median Score	5	5	5	5	5
Mode Score	5	5	5	5	5
Standard Deviation	0.52	0.5	0.84	0.45	0.63
Interpretation of Result (Based on Median)	Agree	Agree	Agree	Agree	Agree

*These percentages do not sum up to 100% due to rounding.

7. Do you consider the following way as potentially effective means for achieving early and continuous involvement and coordination: Establishing inter-agency work groups, advisory groups, and/or committees for supporting early and continuous involvement and coordination?

Table 44: Survey Results – Establishing Inter-Agency Work Groups, Advisory Groups, and/or Committees

Establishing Inter-Agency Work Groups, Advisory Groups, and/or Committees	IDOT Districts	IDOT Central Office and FHWA	Resource Agencies	MPOs	Total
Strongly Agree 6	1 (11%)	0	0	0	1 (3%)*
Agree 5	5 (56%)	3 (75%)	4 (67%)*	6 (50%)	18 (58%)*
Somewhat Agree 4	2 (22%)	1 (25%)	0	3 (25%)	6 (19%)*
Somewhat Disagree 3	0	0	1 (17%)*	3 (25%)	4 (13%)*
Disagree 2	0	0	0	0	0
Strongly Disagree 1	0	0	0	0	0
No Opinion	1 (11%)	0	1 (17%)*	0	2 (6%)*
Total Responses Excl. No Opinion	8 (89%)	4 (100%)	5 (83%)	12 (100%)	29 (94%)
Total Responses	9	4	6	12	31
Mean Score	4.88	4.75	4.6	4.25	4.55
Median Score	5	5	5	4.5	5
Mode Score	5	5	5	5	5
Standard Deviation	0.64	0.5	0.89	0.87	0.78
Interpretation of Result (Based on Median)	Agree	Agree	Agree	Somewhat Agree - Agree	Agree

*These percentages do not sum up to 100% due to rounding.

8. Do you consider the following way as potentially effective means for achieving early and continuous involvement and coordination: Providing agencies with a common understanding of one another's roles and responsibilities (e.g. through webinars)?

Table 45: Survey Results – Providing Agencies with a Common Understanding of One Another's Roles and Responsibilities

Providing Agencies with a Common Understanding of One Another's Roles and Responsibilities	IDOT Districts	IDOT Central Office and FHWA	Resource Agencies	MPOs	Total
Strongly Agree 6	5 (56%)	0	0	1 (8%)	6 (19%)
Agree 5	3 (33%)	4 (100%)	6(100%)	9 (75%)	22 (71%)
Somewhat Agree 4	1 (11%)	0	0	2 (17%)	3 (10%)
Somewhat Disagree 3	0	0	0	0	0
Disagree 2	0	0	0	0	0
Strongly Disagree 1	0	0	0	0	0
No Opinion	0	0	0	0	0
Total Responses Excl. No Opinion	9 (100%)	4 (100%)	6(100%)	12 (100%)	31 (100%)
Total Responses	9	4	6	12	31
Mean Score	5.44	5	5	4.92	5.1
Median Score	6	5	5	5	5
Mode Score	6	5	5	5	5
Standard Deviation	0.73	0	0	0.51	0.54
Interpretation of Result (Based on Median)	Strongly Agree	Agree	Agree	Agree	Agree

9. Do you consider the following way as potentially effective means for achieving early and continuous involvement and coordination: Designating a coordinator at every District to be responsible for the implementation of the streamlined NEPA/planning process and for inter-agency coordination?

Table 46: Survey Results – Designating a Coordinator at Every District

Designating a Coordinator at Every District	IDOT Districts	IDOT Central Office and FHWA	Resource Agencies	MPOs	Total
Strongly Agree 6	0	0	0	0	0
Agree 5	7 (78%)	4 (100%)	6 (100%)	6 (50%)	23 (74%)
Somewhat Agree 4	1 (11%)	0	0	6 (50%)	7 (23%)
Somewhat Disagree 3	0	0	0	0	0
Disagree 2	1 (11%)	0	0	0	1 (3%)
Strongly Disagree 1	0	0	0	0	0
No Opinion	0	0	0	0	0
Total Responses Excl. No Opinion	9	4 (100%)	6 (100%)	12 (100%)	31 (100%)
Total Responses	9	4	6	12	31
Mean Score	4.56	5	5	4.5	4.68
Median Score	5	5	5	4.5	5
Mode Score	5	5	5	4,5*	5
Standard Deviation	1.01	0	0	0.52	0.65
Interpretation of Result (Based on Median)	Agree	Agree	Agree	Somewhat Agree - Agree	Agree

* The mode scores are 4 and 5

10. Do you consider the following way as potentially effective means for achieving early and continuous involvement and coordination: Designating a coordinator at every MPO to be responsible for the implementation of the streamlined NEPA/planning processes and for inter-agency coordination?

Table 47: Survey Results – Designating a Coordinator at Every MPO

Designating a Coordinator at Every MPO	IDOT Districts	IDOT Central Office and FHWA	Resource Agencies	MPOs	Total
Strongly Agree 6	1 (11%)	0	0	0	1 (3%)*
Agree 5	5 (56%)	4 (100%)	6 (100%)	3 (25%)*	18 (58%)*
Somewhat Agree 4	0	0	0	7 (58%)*	7 (23%)*
Somewhat Disagree 3	1 (11%)	0	0	1 (8%)*	2 (6%)*
Disagree 2	0	0	0	1 (8%)*	1 (3%)*
Strongly Disagree 1	0	0	0	0	0
No Opinion	2 (22%)	0	0	0	2 (6%)*
Total Responses Excl. No Opinion	7 (78%)	4 (100%)	6 (100%)	12 (100%)	29 (94%)
Total Responses	9	4	6	12	31
Mean Score	4.86	5	5	4	4.55
Median Score	5	5	5	4	5
Mode Score	5	5	5	4	5
Standard Deviation	0.90	0	0	0.85	0.83
Interpretation of Result (Based on Median)	Agree	Agree	Agree	Somewhat Agree	Agree

*These percentages do not sum up to 100% due to rounding.

11. Do you consider the following way as potentially effective means for achieving such early and continuous involvement and coordination: Providing dedicated staff at Resource Agencies for cooperating and coordinating with IDOT/Districts and MPOs?

Table 48: Survey Results – Providing Dedicated Staff at Resource Agencies

Providing Dedicated Staff at Resource Agencies	IDOT Districts	IDOT Central Office and FHWA	Resource Agencies	MPOs	Total
Strongly Agree 6	5 (56%)	0	0	12 (100%)	17 (55%)
Agree 5	3 (33%)	4 (100%)	1 (17%)	0	8 (26%)
Somewhat Agree 4	1 (11%)	0	3 (50%)	0	4 (13%)
Somewhat Disagree 3	0	0	2 (33%)	0	2 (6%)
Disagree 2	0	0	0	0	0
Strongly Disagree 1	0	0	0	0	0
No Opinion	0	0	0	0	0
Total Responses Excl. No Opinion	9 (100%)	4 (100%)	6 (100%)	12 (100%)	31 (100%)
Total Responses	9	4	6	12	31
Mean Score	5.44	5	3.83	6	5.29
Median Score	6	5	4	6	6
Mode Score	6	5	4	6	6
Standard Deviation	0.73	0	0.75	0	0.94
Interpretation of Result (Based on Median)	Strongly Agree	Agree	Somewhat Agree	Strongly Agree	Strongly Agree

4.3.4 Summary of Results

To further summarize the survey results and the data analysis, the research team grouped all the potential integration practices according to the general opinion of respondents, which is based on the median score of the total respondents. Each group and its corresponding potential integration practices are summarized in Table 49.

Table 49: Summary of the Survey Results Based on General Opinions of Respondents

General Opinions of Respondents (based on median of total)	Potential Integration Practices
Strongly Agree	Providing dedicated staff at Resource Agencies for cooperating and coordinating with IDOT/Districts and MPOs.
Agree	Conducting environmental screening of projects during the Programming Phase (prior to Phase I Project Development).
	Requiring corridor studies and feasibility studies to be conducted in compliance with NEPA requirements.
	Providing Phase I consultants involved in preparing corridor studies and/or feasibility studies with environmental screening information.
	Early and continuous involvement and coordination with IDOT/Districts, MPOs, Resource Agencies, and consultants.
	Ensuring early coordination between Districts and MPOs while preparing the long range transportation plans (LRTPs) by MPOs.
	Establishing and using one common database for collecting, storing, updating, and accessing project data and environmental data, where data/feedback is provided and accessed by IDOT/Districts, MPOs, Resource Agencies, and consultants.
	Developing Memorandums of Understanding (MOUs) or Programmatic Agreements (PAs) among agencies for supporting early and continuous involvement and coordination.
	Establishing inter-agency work groups, advisory groups, and/or committees for supporting early and continuous involvement and coordination.
	Providing agencies with a common understanding of one another's roles and responsibilities.
	Designating a coordinator at every District to be responsible for the implementation of the streamlined NEPA/planning process and for inter-agency coordination.
	Designating a coordinator at every MPO to be responsible for the implementation of the streamlined NEPA/planning process and for inter-agency coordination.
Somewhat Agree	Conducting environmental screening of projects during the planning phase (during the preparation of the MPO's LRTP).
	Engaging Resource Agencies in environmentally screening candidate projects during the Planning Phase and soliciting their feedback on potential environmental issues during the preparation of LRTPs by MPOs.
	Engaging Resource Agencies in environmentally screening candidate projects during the Programming Phase and soliciting their feedback on potential environmental issues during the preparation of the multi-year program (MYP).

In terms of the following integration practice, the research team also identified the recommended actions to implement the practice based on the median of responses – from all respondent groups; "conducting environmental screening of projects during the planning phase (during the preparation of the MPO's LRTP)", as summarized in Table 50. The recommended time for conducting the first environmental screening would be screening priority projects once they have been included in the MPO's LRTP, and the recommended tool to use would be a GIS-based tool like Arc-GIS. For environmental screening of projects, establishing and using standardized environmental criteria and metrics in environmentally assessing projects is recommended, and the recommended ways to disseminate the results of environmental screening would be 1) uploading and storing the data in a common database, and 2) Informing Phase I consultants, IDOT in-house staff, and Resource Agencies involved in the NEPA process.

As discovered from the discussions during the interviews, MPOs do not coordinate with IDOT Districts when conducting environmental screening of projects during the planning phase. As such, another recommended action would be to encourage MPOs to coordinate with IDOT Districts so that the results of the environmental screening could be passed to the IDOT Districts.

Table 50: Recommended Actions for Environmental Screening during the Planning Phase

Recommended Actions	Responses
Recommended Time for Conducting the First Environmental Screening	Screening priority projects once they have been included in the MPO's long range transportation plan (LRTP)
Recommended Tool for Conducting the First Environmental Screening	GIS-based Tool (Arc-GIS)
Establishing and Using Standardized Environmental Criteria and Metrics	Agree
Recommended Way(s) to Disseminate the Results of Environmental Screening	Uploading and storing the data in a common database
	Informing Phase I consultants, IDOT in-house staff, and Resource Agencies involved in the NEPA process

To facilitate the implementation of environmental screening of projects during the planning phase, MPOs could make use of the public GIS datasets for the State of Illinois. These public GIS datasets are summarized in Table 51.

Table 51: Public GIS Datasets for the States of Illinois (UIC 2013)

Public Datasets	URL
Illinois Geospatial Data Clearinghouse	http://www.isgs.uiuc.edu/nsdihome/
Illinois Climate Network Data	http://www.sws.uiuc.edu/warm/cdflist.asp?typ=a
Invasive Plant Species in Illinois Forests	http://dnr.state.il.us/orep/ctap/invasive/
U.S. Fish & Wildlife Service	http://www.fws.gov/gis/data/national/index.html
City of Chicago GIS	http://www.cityofchicago.org/city/en/depts/doit/provdrs/gis.html.html
Chicago Police Department Citizen Law Enforcement Analysis and Reporting (CLEARMAP)	http://gis.chicagopolice.org/
The University of Chicago GIS Data	http://www.lib.uchicago.edu/e/su/maps/chigis.html
Illinois Rivers Decision Support System	http://ilrdss.sws.uiuc.edu/links/maps.asp
Illinois Department of Transportation: T2 GIS Data	http://gis.dot.illinois.gov/gist2/
Illinois County GIS Links	http://www.gis2gps.com/GIS/illcounties/illcounties.html

As for the following integration practice, the research team also identified the recommended actions to implement the practice based on the median of responses – from all respondent groups: "conducting environmental screening of projects during the programming phase (prior to phase I project development)", as summarized in Table 52. The recommended time for conducting the first environmental screening would be screening a candidate project, at the District level, prior to the prioritization and selection of projects for inclusion in the multi-year program (MYP), and the recommended tool to use would be a GIS-based tool like Arc-GIS. For environmental screening of projects, establishing and using standardized environmental criteria and metrics in environmentally assessing projects is recommended, and the recommended ways to disseminate the results of environmental screening would be 1) uploading and storing the data in a common database, and 2) informing Phase I consultants, IDOT in-house staff, and Resource Agencies involved in the NEPA process.

Table 52: Recommended Actions for Environmental Screening during the Programming Phase

Recommended Actions	Responses
Recommended Time for Conducting the First Environmental Screening	Screening a candidate project, at the District level, PRIOR to the prioritization and selection of projects for inclusion in the multi-year program (MYP)
Recommended Tool for Conducting the First Environmental Screening	GIS-based Tool (Arc-GIS)
Establishing and Using Standardized Environmental Criteria and Metrics	Agree
Recommended Way(s) to Disseminate the Results of Environmental Screening	Informing Phase I consultants, IDOT in-house staff, and Resource Agencies involved in the NEPA process
	Uploading and storing the data in a common database

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ICT Project R27-132
Incorporating NEPA into IDOT and MPO Planning Processes

Internal Interim Report #3

(DRAFT)

Submitted by: **(Include Name and Address of Organization)**	**Department of Civil and Environmental Engineering** **University of Illinois at Urbana-Champaign** 205 N. Mathews Ave. Urbana, IL 61801
Investigator(s):	**Nora El-Gohary**, Assistant Professor **Liang Liu**, Associate Professor **Khaled El-Rayes**, Professor **Xuan Lv**, Graduate Student
Corresponding Investigator Name:	Nora El-Gohary
Corresponding Investigator Phone:	(217) 333-6620
Corresponding Investigator Fax:	(217) 265-8039
Corresponding Investigator Email:	gohary@illinois.edu
For Period:	May 1, 2013-Oct 31, 2013
Status:	**DRAFT**

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1 INTRODUCTION

1.1 Project Motivation

The Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) issued a joint guidance on the environmental review process required by Section 6002 of the Safe, Accountable, Flexible, and Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) (FHWA 2006). The SAFETEA-LU provides new guidance on how to integrate transportation planning and the National Environmental Policy Act (NEPA) processes. However, the guidance does not provide well-defined and 'detailed enough' strategies or guidelines on how to integrate NEPA into transportation planning processes. Special emphasis is required on large-scale highway projects, since they tend to have a lengthy and costly NEPA process. There is a need to identify clear institutional strategies and guidelines on how to integrate NEPA into the IDOT Planning Process and the Metropolitan Planning Organization (MPO) Planning Process for large highway projects, in a manner to ensure, both, compliance with the NEPA and efficiency of project development in terms of time and cost.

1.2 Project Objectives

The main goal of this project is to assist IDOT in defining the guidelines on how to integrate the National Environmental Policy Act (NEPA) into the current IDOT Planning Process and Metropolitan Planning Organization (MPO) Planning Process for large-scale highway projects. Consultation will be sought from representatives of relevant state and federal regulatory and Resource Agencies, such as MPOs, FHWA, Illinois Environmental Protection Agency (IEPA), Illinois Dept. of Natural Resources (IDNR), and Illinois Historical Preservation Agency. The research team will seek guidance from the Technical Review Panel (TRP) for defining the list of relevant agencies and their representatives for consultation.

To accomplish this goal, the objectives of this project are to:

1) Provide a comprehensive review of literature of practices integrating NEPA into transportation planning processes in other states.
2) Gather feedback from inter and intra-departmental staff involved in the IDOT Planning Process, the MPO Planning Process, and the NEPA Process to evaluate the existing practices of integrating NEPA into transportation planning processes – for large highway projects.
3) Evaluate the impact of these practices on the project development process.
4) Identify (based on 1, 2, and 3 above) the key elements/practices that are needed to successfully integrate NEPA into the IDOT Planning Process and the MPO Planning Process for large-scale highway projects.
5) Develop a guidance document on how to integrate NEPA into the IDOT Planning Process and the MPO Planning Process for large-scale highway projects; and provide

recommendations on how to evaluate the integrated process. It is noted that the implementation of this guidance by MPOs will be voluntary.

1.3 Project Tasks and Deliverables

To accomplish the research objectives, the proposed methodology breaks down the research work into seven major tasks that will lead to five project deliverables, as shown in Fig. 1.

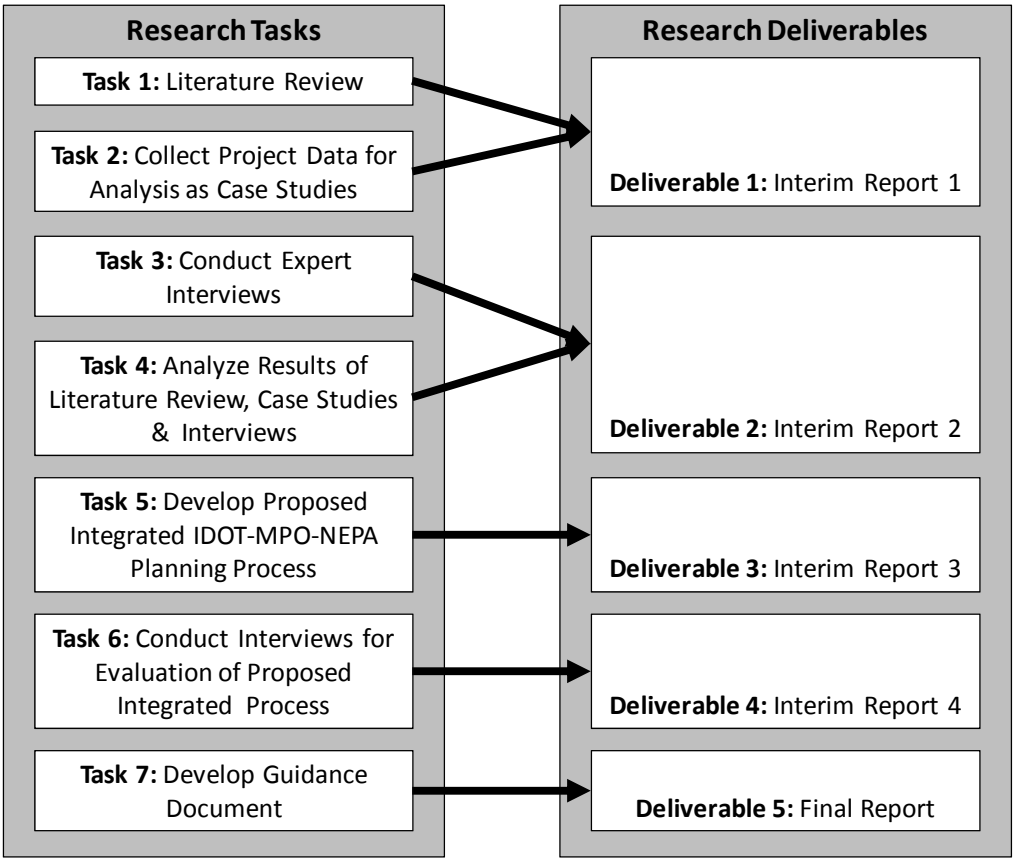


Figure 1 – Proposed Research Methodology

1.4 Scope and Organization of this Report

During this reporting period, the research team worked on Task 5. This task started on May 01, 2013 and was completed on Oct 31, 2013. This interim report intends to summarize the results from Task 5, i.e. summarize the development of the Integrated IDOT-MPO-NEPA Planning Process. The following is a brief description of Task 5. Accordingly, the rest of the report focuses on Task 5.

Task 5 (Develop Proposed Integrated IDOT-MPO-NEPA Planning Process): The research team worked on Task 5 which focuses on developing a proposed Integrated IDOT-MPO-NEPA Planning Process for large-scale highway projects based on the results of Task 1 through Task 4.

The research team first summarized the existing IDOT, MPO, and NEPA planning processes and developed a process flowchart based on: 1) the literature review of IDOT planning process, MPO planning process, and NEPA process (Task 1), 2) feedback from expert interviews (Task 3), and 3) feedback from meetings with members from the TRP and experts from MPOs. In the September 06, 2013 TRP meeting, the research team and the TRP discussed the key integration elements/practices that shall be incorporated into the integrated process (based on the existing processes and the survey results (Task 3)). The research team then finalized the proposed Integrated IDOT-MPO-NEPA Planning Process — based on the results of Task 1 through Task 4, and based on the TRP's recommendations during the meeting of September 06, 2013. To represent the integrated process, the research team developed a process flowchart and described each process in terms of process inputs, outputs, and actors. The research team also described a set of associated collaboration-oriented integration practices (e.g. developing Memorandums of Understanding (MOUs)). The research team will solicit further expert and TRP feedback on the integrated process, as part of Task 6. Task 5 was completed on October 31, 2013.

2 PROPOSED INTEGREATED IDOT-MPO-NEPA PLANNING PROCESS (TASK 5)

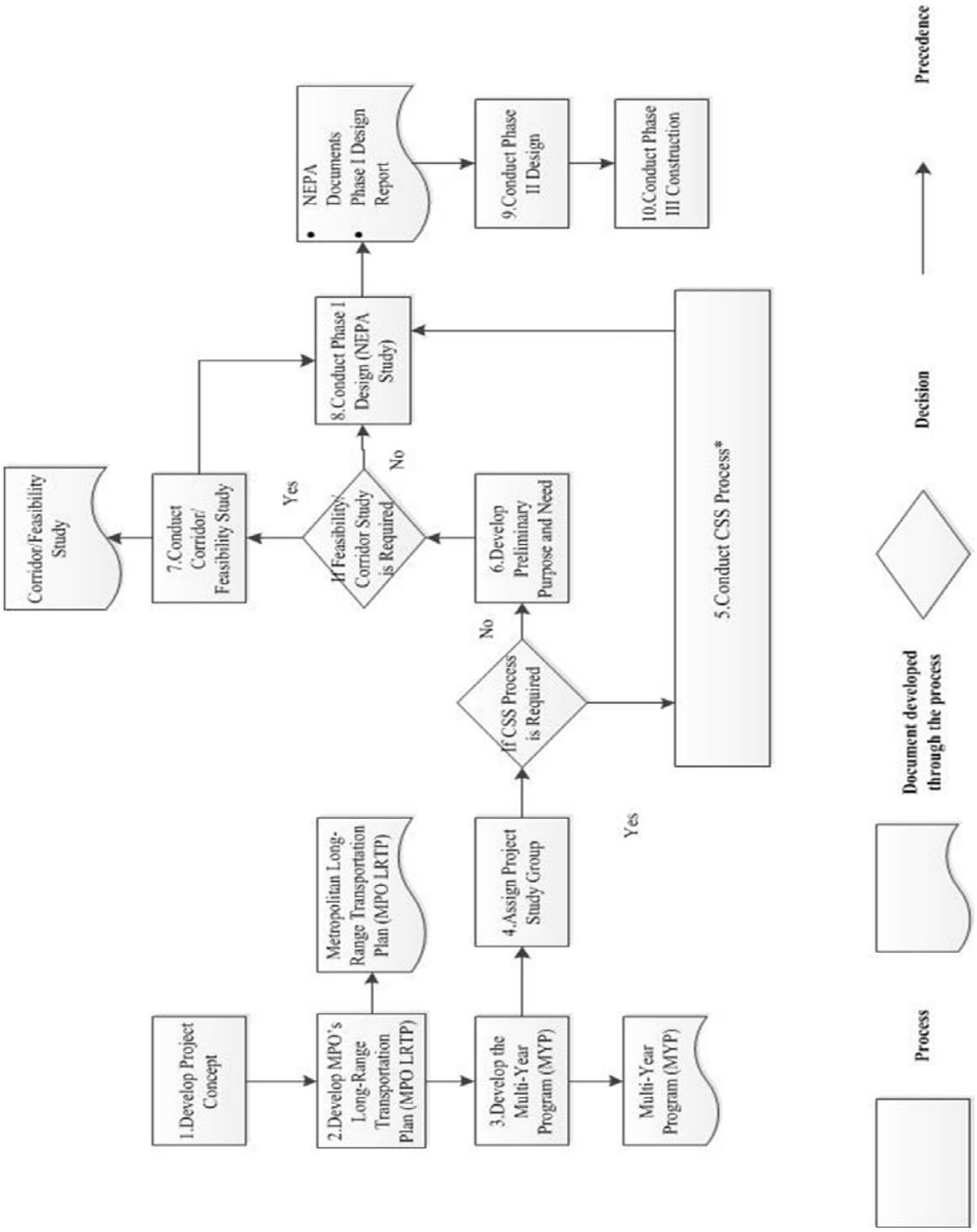
2.1 Purpose and Methodologies

In order to provide effective guidance on how to integrate NEPA into the IDOT planning process and the MPO planning process for large-scale highway projects, the research team developed the Integrated IDOT-MPO-NEPA Planning Process based on the results of Task 1 to Task 4. The research team first summarized the existing IDOT, MPO, and NEPA planning processes and developed a process flowchart based on: 1) the literature review of IDOT planning process, MPO planning process, and NEPA process (Task 1), 2) feedback from expert interviews (Task 3), and 3) feedback from meetings with members from the TRP and experts from MPOs. In the September 06, 2013 TRP meeting, the research team and the TRP discussed the key integration elements/practices that shall be incorporated into the integrated process (based on the existing processes and the survey results (Task 3)). The research team then finalized the proposed Integrated IDOT-MPO-NEPA Process based on the analysis of the literature review, the case studies, and expert interviews (Task 4), and based on the TRP’s recommendations during the meeting of September 06, 2013. To represent the integrated process, the research team developed a process flowchart and described each process in terms of process inputs, outputs, and actors. The research team also described a set of associated collaboration-oriented integration practices (e.g. developing Memorandums of Understanding (MOUs)). The research team will solicit further expert and TRP feedback on the integrated process, as part of Task 6.

2.2 Original IDOT, MPO, and NEPA Planning Processes

In Task 1, the research team conducted a comprehensive literature review on IDOT planning, MPO planning, and NEPA processes. Based on the literature review, feedback from expert

interviews (Task 3), and feedback from meetings with members from the TRP and experts from MPOs, the research team summarized the existing IDOT, MPO, and NEPA planning processes. The process flowchart is shown in Figure 2.



* The Context Sensitive Solution (CSS) process is conducted concurrently with preliminary purpose and need development, corridor/feasibility study, and Phase I Design.

Figure 2 – Original IDOT, MPO, and NEPA Planning Processes

A short description of the existing processes is provided in the following paragraph (IDOT 2010):

During the planning phase, a project originates from a project concept that aims at solving statewide or specific transportation needs. After the project concept has been developed, it will be submitted for consideration in the MPO's Long-Range Transportation Plan (LRTP). After a project prioritization process, only the projects recognized as regionally significant will be included in the MPO's LRTP. When it comes to the programming phase, the project will be submitted to IDOT districts for consideration in the IDOT's Multi-Year Plan (MYP). Once the project has been selected for inclusion in the MYP, a project study group will be assigned and will start developing the preliminary purpose and need. If IDOT decides the project should follow the principals of Context Sensitive Solution (CSS), the CSS process will be initiated and will continue until the end of Phase I Design. If the project requires a corridor study to investigate available corridors or a feasibility study to evaluate whether a future study is necessary, the corridor/feasibility study will be conducted before the start of Phase I Design. Phase I Design will be conducted to determine the specific alignments, profiles, and major design features of the proposed project with proper social, economic, and environmental considerations, and the NEPA study is part of the Phase I Design study. Following Phase I Design, Phase II Design will be conducted to prepare the final design and construction bid documents and ensure the project is ready for Phase III Construction.

2.3 Summary of Recommended Integration Practices

Based on the analysis of the literature review, the case studies, and expert interviews (Task 4), and based on the TRP's recommendations during the meeting of September 06, 2013, the research team recommends two types of interrelated integration practices: 1) process-oriented integration practices, and 2) collaboration-oriented integration practices.

The following is a summary of the recommended process-oriented integrating practices (further details are provided in Section 2.5):

- Long Range Transportation Plans Preparation
    - Ensuring early coordination between Districts and MPOs while preparing the long range transportation plans (LRTPs) by MPOs
    - Soliciting the feedback of Resource Agencies on potential environmental issues during the preparation of the LRTPs by MPOs
- Planning Screen
    - Conducting an environmental screening of priority projects, using a GIS-based tool, once they have been included in the MPO's long range transportation plan (LRTP)
    - Engaging Resource Agencies in environmentally screening priority projects during the Planning Screen

    - Establishing and using standardized environmental criteria and metrics for environmentally assessing projects during the Planning Screen
    - Informing Phase I consultants, IDOT in-house staff, and Resource Agencies involved in the NEPA process of the results of the Planning Screen
    - Uploading and storing the data and results of the Planning Screen in a Common Database
- Multi-Year Program Preparation
    - Soliciting the feedback of Resource Agencies on potential environmental issues during the preparation of the MYP
- Programming Screen
    - Conducting an environmental screening of priority projects, at the District level and using a GIS-based tool, once they have been included in the IDOT's multi-year program (MYP)
    - Engaging Resource Agencies in environmentally screening priority projects during the Programming Screen
    - Establishing and using standardized environmental criteria and metrics for environmentally assessing projects during the Programming Screen
    - Informing Phase I consultants, IDOT in-house staff, and Resource Agencies involved in the NEPA process of the results of the Programming Screen
    - Uploading and storing the data and results of the Programing Screen in a Common Database
- Corridor/Feasibility Studies Preparation
    - Conducting corridor studies and feasibility studies in compliance with NEPA requirements
    - Providing Phase I consultants involved in preparing corridor studies and/or feasibility studies with the data and results of the Planning Screen and Programming Screen

The following is a summary of the recommended collaboration-oriented integrating practices (further details are provided in Section 2.4):

- Common Database
    - Establishing and using one Common Database for collecting, storing, updating, and accessing project data and environmental data, where data/feedback is provided and accessed by IDOT/Districts, MPOs, Resource Agencies, and consultants
- Designated Coordinators
    - Designating a coordinator at every District to be responsible for the implementation of the Integrated IDOT-MPO-NEPA Process and for inter-agency coordination

    - Designating a coordinator at every MPO to be responsible for the implementation of the Integrated IDOT-MPO-NEPA Process and for inter-agency coordination
- Dedicated Staff at Resource Agencies
    - Providing dedicated staff at Resource Agencies for cooperating and coordinating with IDOT/Districts and MPOs
- Inter-Agency Advisory Groups
    - Establishing inter-agency work groups, advisory groups, and/or committees for supporting early and continuous involvement and coordination
- Memorandums of Understanding and Programmatic Agreements
    - Developing Memorandums of Understanding (MOUs) or Programmatic Agreements (PAs) among agencies for supporting early and continuous involvement and coordination
- Training and Outreach
    - Providing agencies with a common understanding of one another's roles and responsibilities

2.4 Collaboration-Oriented Integration Practices

2.4.1 Common Database

Through the expert interviews, the research team found out that the level of geographic information system (GIS) use varies significantly across agencies. Some agencies have an in-house GIS engineer that maintains geographic datasets to support the agency's internal processes, while other agencies totally rely on consultants. Also, the type of GIS tools and datasets that an agency has access to varies across agencies. For example, all IDOT districts have access to the Detailed Impact Review Tool (DIRT) that has resource data layers such as endangered or threatened species, while MPOs do not have access to either the tool or these data. For the success of the integrated process, the core environmental data layers from all agencies/sources need to be compiled into one Common Database. To facilitate effective implementation of the Integrated IDOT-MPO-NEPA Planning Process, the research team thus recommends establishing and using one Common Database for collecting, storing, updating, and accessing project data, environmental data, and socio-economic data. These data (or feedback on the data) would be primarily provided and accessed by the Designated Coordinators (described in Section 2.4.2), Environment Coordinators (described in section 2.4.3), Inter-Agency Advisory Group (described in Section 2.4.4), and project study group (described in Section 2.5.6), but also by staff from IDOT/Districts, MPOs, Resource Agencies, and consultants. The Planning Screen Summary Report and the Programming Screen Summary Report (described in Section 2.5.3 and Section 2.5.5) would also be stored in the Common Database so that the Inter-Agency Advisory Groups and the project study group can have easy access to them.

2.4.2 Designated Coordinators

The research team proposes designating a coordinator at each IDOT District and at each MPO to be responsible for the implementation of the Integrated IDOT-MPO-NEPA Planning Process and for inter-agency coordination. The main responsibilities of the Designated Coordinators are (FDOT 2006):

- Ensuring timely information flow between staff who participate in the Integrated DOT-MPO-NEPA Planning Process and staff who maintain the needed information within their organizations;
- Ensuring timely exchange of project information between MPOs and IDOT Districts in cooperation with appropriate staff;
- Assisting MPOs in preparing the MPO's Long-Range Transportation Plan (LRTP);
- Assisting MPOs in collecting project data, environmental, socio-economic, and cultural resources data for the Planning Screen;
- Assisting IDOT Districts in preparing the IDOT's Multi-Year Plan (MYP);
- Assisting IDOT Districts in collecting project data, environmental, socio-economic, and cultural resources data for the Programming Screen;
- Engaging the Inter-Agency Advisory Group (described in Section 2.4.4) to coordinate timely and meaningful reviews of the information of the Planning Screen and Programming Screen;
- Confirming that the Inter-Agency Advisory Group receives responses from relevant agencies concerning their commentary during the Planning Screen and Programming Screen;
- Monitoring preliminary responses from Inter-Agency Advisory Group and conducting personal communication to clarify issues or respond to questions during the Planning Screen and Programming Screen;
- Communicating the commentary from the Inter-Agency Advisory Group to the appropriate staff as the project advances during the Planning Screen and Programming Screen;
- Identifying actions that are necessary to advance the project based on the relevant commentary from the Inter-Agency Advisory Group during the Planning Screen and Programming Screen;
- Developing the Planning Screen Summary Report and Programming Screen Summary Report in cooperation with Environmental Coordinators;
- Uploading the Planning Screen Summary Report and Programming Screen Summary Report to the Common Database once they are completed;
- Ensuring the Planning Screen Summary Report and Programming Screen Summary Report are forwarded to the project study group once the project proceeds to a corridor/feasibility study or Phase I Design;

- Assisting the project study group in deciding the validity of the information of the Planning Screen and Programming Screen;
- Assisting project study group in evaluating reasonable corridors during corridor/feasibility study;
- Assisting the project study group in developing avoidance, minimization, and/or mitigation measures; and
- Assisting the project study group in identifying reasonable alternatives during Phase I Design.

2.4.3 Dedicated Staff (Environmental Coordinators) at Resource Agencies

The research team also proposes providing dedicated staff at Resource Agencies as environmental coordinators responsible for cooperating and coordinating with IDOT/Districts and MPOs during the Integrated IDOT-MPO-NEPA Planning Process. The major responsibilities of the Environmental Coordinators are (FDOT 2006):

- Ensuring timely exchange of information between Resource Agencies and MPOs as well as between Resource Agencies and IDOT Districts in cooperation with appropriate staff;
- Providing feedback on potential environmental issues during the preparation of the LRTP and MYP;
- Engaging the Inter-Agency Advisory Group (described in Section 2.4.4) to coordinate a timely and meaningful review of the results of the Planning Screen and Programming Screen;
- Assisting MPOs in collecting project data, environmental, socio-economic, and cultural resources data for the Planning Screen;
- Assisting IDOT Districts in collecting project data, environmental, socio-economic, and cultural resources data for the Programming Screen;
- Assisting the Designated Coordinators in developing the Planning Screen Summary Report and Programming Screen Summary Report;
- Assisting the project study group in deciding the validity of the information of the Planning Screen and Programming Screen;
- Assisting the project study group in evaluating reasonable corridors during corridor/feasibility study;
- Assisting the project study group in identifying reasonable alternatives during Phase I Design;
- Assisting the project study group in developing avoidance, minimization, and/or mitigation measures; and
- Providing guidance and technical support for specific environmental issues during the Integrated IDOT-MPO-NEPA Planning Process.

2.4.4 Inter-Agency Advisory Group

In order to support early and continuous involvement and coordination, the research team proposes establishing an Inter-Agency Advisory Group for the Integrated IDOT-MPO-NEPA Planning Process. The Inter-Agency Advisory Group should consist of representatives from IDOT Districts, MPOs, Resource Agencies, and other agencies/offices/bureaus (e.g. IDOT Central Office) if/as necessary. The Designated Coordinators (from IDOT Districts and MPOs) and Environmental Coordinators (from Resource Agencies) can also serve as representatives of their agencies on the Inter-Agency Advisory Group, if necessary. These representatives/members of the Inter-Agency Advisory Group are responsible for coordinating reviews and communicating to support the Integrated IDOT-MPO-NEPA Planning Process on behalf of their agencies. The Inter-Agency Advisory Group reviews proposed transportation projects to identify potential issues, provides guidance for addressing these issues, assists in future studies, and provides information about the environmental, socio-economic, and cultural resources. Unlike Designated Coordinators and Environmental Coordinators, who are responsible for the implementation and coordination of the entire Integrated IDOT-MPO-NEPA Planning Process, the major responsibilities of the Inter-Agency Advisory Group are fulfilled during the Planning Screen and Programming Screen, and are summarized in Table 1 (FDOT 2006).

After the Planning Screen and Programming Screen, the Inter-Agency Advisory Group continues to support the Integrated IDOT-MPO-NEPA Process by providing input and technical assistance for any technical studies they recommend during the Programming Screen. During Phase I Design, the project study group will develop technical studies (such as noise and air quality study, water quality study, and wetlands study) to address the particular issues raised by the Inter-Agency Advisory Group. The Inter-Agency Advisory Group should review and accept these technical studies before the project study group can summarize them in the study reports.

Table 1: A Comparison of Inter-Agency Advisory Group Responsibilities during Planning Screen and Programming Screen

Inter-Agency Advisory Group Responsibilities	Planning Screen	Programming Screen
Review and comment on the standard GIS analyses results conducted during the Planning Screen and Programming Screen	Yes	Yes
Evaluate and comment on the direct, indirect, and cumulative effects of project environmental, socio-economic, and cultural resources	Yes	Yes
Review other ancillary documents intended to support project review	Yes	Yes
Recommend potential avoidance, minimization, and/or mitigation measures	Yes	Yes
Identify information gaps or data needed to support further evaluation	Yes	Yes
Recommend technical studies (such as noise and air quality study, water quality study, and wetlands study) in support of focused project delivery	No	Yes
Identify and document anticipated permits that may be needed during the Integrated IDOT-MPO-NEPA Process	No	Yes
Assist IDOT and FHWA in determining the NEPA action of the project	No	Yes
Assist IDOT Districts in developing an outline of the scope of work for project development	No	Yes

2.4.5 Memorandums of Understanding (MOUs) & Programmatic Agreements (PAs)

The research team also recommends developing memorandums of understanding (MOUs) and/or Programmatic Agreements (PAs) between IDOT, MPOs, and Resource Agencies for supporting early and continuous involvement and coordination with regards to the integrated process. The MOUs would outline how the Integrated IDOT-MPO-NEPA Planning Process would involve the respective agencies and ensure continuous agency participation. It would also provide agreement on which agencies require access to project and resource data in the Common Database for providing input into the integrated process.

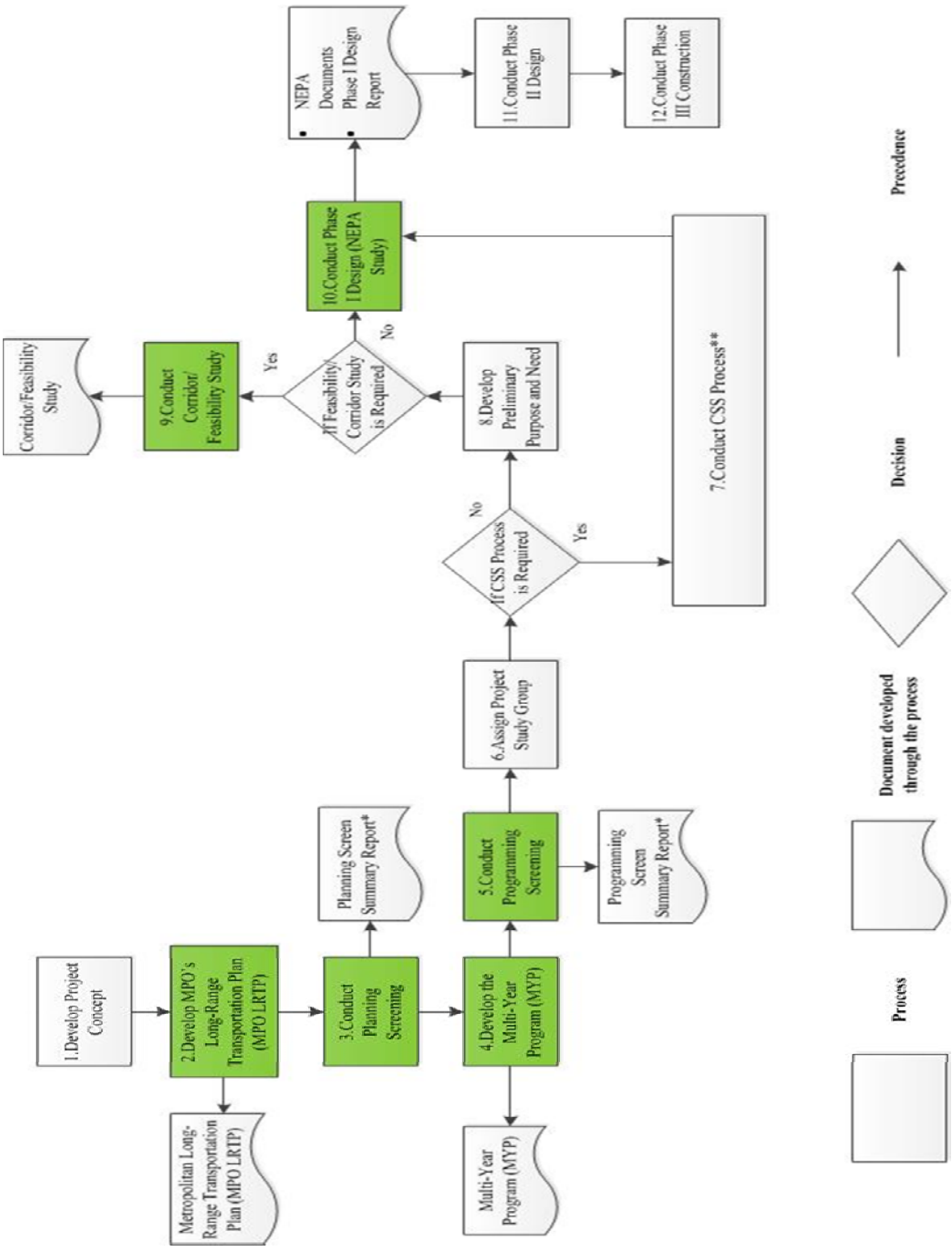
2.4.6 Training and Outreach

It is important for the agencies participating in the integrated process to have a good understanding of one another's roles and responsibilities to support better coordination, process management, flow of data, management of expectations, etc., across agencies. Therefore, the research team proposes the following training/outreach practices:

- Providing staff (especially Designated Coordinators and Environmental Coordinators) at IDOT, MPOs, and Resource Agencies with a common understanding of one another's roles and responsibilities through webinars and/or workshops; and
- Providing Inter-Agency Advisory Group Members with a common understanding of one another's roles and responsibilities through regular group meetings.

2.5 Integrated IDOT-MPO-NEPA Planning Sub-Processes

Based on the analysis of the literature review, the case studies, and the expert interviews (Task 4), and based on the TRP's recommendations during the meeting of September 06, 2013, the research team has proposed: 1) a set of collaboration-oriented integration practices (as discussed in Section 2.4) and, 2) a set of process-oriented integration practices (i.e. a set of sub-processes to foster integrated planning, which we call thereafter Integrated IDOT-MPO-NEPA Sub-Processes). Figure 3 shows a flowchart that summarizes the proposed sub-processes and their interactions, and the added or changed sub-processes (i.e. a sub-process is added or elements of a sub-process are changed, in comparison to existing processes) are highlighted with green color. Table 2 shows the inputs, outputs, and actors of each sub-process.



* The Planning Screen Summary Report and the Programming Screen Summary Report will be forwarded to the project study group and stored in the Common Database.

** The Context Sensitive Solution (CSS) process is conducted concurrently with preliminary purpose and need development, corridor/feasibility study, and Phase I Design.

Figure 3 – Proposed Integrated IDOT-MPO-NEPA Planning Sub-Processes

Table 2: Inputs, Outputs, and Actors of Each Sub-Process of the Integrated IDOT-MPO-NEPA Process

Sub-Process	Inputs	Outputs	Actors
Develop project concept	• Transportation need	• Project concept	• Local planning agencies • MPO • IDOT District • IDOT central office
Develop MPO's LRTP	• Project concepts • Project prioritization criteria	• Long-range transportation plan (LRTP)	• MPO • Designated Coordinators • Environmental Coordinators
Conduct Planning Screen	• Project, environmental, socio-economic, and cultural data • Standardized criteria and metrics • Agency feedback	• Planning Screen Summary Report	• MPO • Designated Coordinators • Environmental Coordinators • Inter-Agency Advisory Group
Develop MYP	• Project Concepts • Project prioritization criteria	• Multi-year program (MYP)	• IDOT Districts • IDOT central office • Designated Coordinators • Environmental Coordinators
Conduct Programming Screen	• Project, environmental, socio-economic, and cultural data • Standardized criteria and metrics • Agency feedback	• Programming Screen Summary Report	• IDOT District • Designated Coordinators • Environmental Coordinators • Inter-Agency Advisory Group
Assign project study group	N/A	• Project study group	• IDOT District • IDOT central office
Develop preliminary purpose and need	• Project concept	• Preliminary purpose and need	• Project study group • General public
Conduct corridor/ feasibility study	• Preliminary purpose and need, • Planning Screen Summary Report • Programming Screen Summary Report • Project, environmental, cultural, and socio-economic data • Agency feedback • Public feedback	• Corridor/ feasibility study report	• Project study group • IDOT District • IDOT central office • Designated Coordinators • Environmental Coordinators • General public
Conduct Phase I (NEPA study) design	• Preliminary purpose and need, • Planning Screen Summary Report • Programming Screen Summary Report • Corridor/feasibility study report • Project, environmental, cultural, and socio-economic data • Agency feedback • Public feedback	• Phase I Design plans and reports • NEPA documents	• Project study group • IDOT District • IDOT central office • Designated Coordinators • Environmental Coordinators • Inter-Agency Advisory Group • General public
Conduct Phase II Design	• Phase I Design reports • Project, environmental, cultural, and socio-economic data	• Final design plans and reports	• Design squad • IDOT District • IDOT central office
Conduct Phase III Construction	• Final design plans and reports • Labors, materials, funds, and management	• Completed highway project	• Contractor(s) • IDOT District • IDOT central office

2.5.1 Develop Project Concepts

Projects originate from project concepts, which can come from different sources, including local planning agencies or MPOs, IDOT Districts, a Bureau in the central office, or other sources targeting a special need or a statewide need. The development of a project proposal typically involves, but not restricted to the following activities (IDOT 2010):

- "Establishing that there is, in fact, a need for the project;
- Making a preliminary determination of the project scope of work;
- Reviewing any available data and records;
- Conducting an initial evaluation of right-of-way, utility, and environmental impacts and the likely level of environmental evaluation;
- Developing a rough, preliminary cost estimate;
- Determining a proposed schedule;
- Developing a set of preliminary drawings/plans."

2.5.2 Develop MPO's Long-Range Transportation Plan (LRTP)

In this step, IDOT and local planning agencies submit project concepts for consideration in MPOs' LRTPs. As limited budgets requires MPOs to spend available resources more wisely, a project prioritization process is necessary to choose appropriate projects. Project concepts submitted are then reviewed, evaluated, and ranked. Only those projects that are considered regionally significant can be included in the MPO's LRTP. A regionally significant project will have a significant impact on the capacity of the region's transportation system. Moreover, in order for major projects in the region to be eligible to receive federal transportation funds, the projects have to be fiscally constrained and not to exceed pollution emission limits. The MPOs should coordinate with the IDOT Districts (through the Designated Coordinators), and should also solicit the feedback of Resource Agencies (through the Environmental Coordinators) on potential environmental issues during the preparation of the LRTPs.

2.5.3 Conduct Planning Screen

Once the project has been identified as regionally significant and included in the MPO's LRTP, the MPO – in cooperation with IDOT District Designated Coordinator, Environmental Coordinators, and Inter-Agency Advisory Group – will conduct a Planning Screen, using a GIS-based tool, for analyzing the potential environmental, socio-economic, and cultural effects of the proposed project.

The following is a descriptive summary of the main features of the Planning Screen:

- Conducting an environmental screening of priority projects, using a GIS-based tool, once they have been included in the MPO's long range transportation plan (LRTP).

- Engaging Resource Agencies in environmentally screening priority projects during the Planning Screen.
- Establishing and using standardized environmental criteria and metrics for environmentally assessing projects during the Planning Screen.
- Informing Phase I consultants, IDOT in-house staff, and Resource Agencies involved in the NEPA process of the results of the Planning Screen.
- Uploading and storing the data and results of the Planning Screen in a Common Database.

The process for conducting the Planning Screen consists of four main steps, as per following sub-sections.

2.5.3.1 Data Collection

The collection and organization of project data, environmental, socio-economic, and cultural resources data is the basis for conducting the Planning Screen of proposed projects. The recommend lists of each type of data are shown below (FDOT 2006; IDOT 2010):

- Project description: project location, project type, project scope, project estimated duration, project estimated cost, and project written description;
- Environmental resources: agricultural lands, air quality, natural resources, water resources and aquatic habitats, groundwater, floodplains, wetlands, special waste, and special lands;
- Socio-economic resources: population and demographics, employment characteristics, land use, public services/facilities, and communities; and
- Cultural resources: archaeological sites, historic sites, and historic districts and buildings.

To facilitate the data collection, the MPOs can make use of the public GIS datasets for the State of Illinois. These public GIS datasets are summarized in Table 3. The MPOs should also coordinate with the Designated Coordinators and Environmental Coordinators, if/as necessary, to gather the data and information needed for the Planning Screen.

After the data collection is completed, the MPOs should upload all the data into the Common Database and get ready for the standard GIS analyses.

Table 3: Public GIS Datasets for the States of Illinois (UIC 2013)

Public Datasets	URL
Illinois Geospatial Data Clearinghouse	http://www.isgs.uiuc.edu/nsdihome/
Illinois Climate Network Data	http://www.sws.uiuc.edu/warm/cdflist.asp?typ=a
Invasive Plant Species in Illinois Forests	http://dnr.state.il.us/orep/ctap/invasive/
U.S. Fish & Wildlife Service	http://www.fws.gov/gis/data/national/index.html
City of Chicago GIS	http://www.cityofchicago.org/city/en/depts/doit/provdrs/gis.html.html
Chicago Police Department Citizen Law Enforcement Analysis and Reporting (CLEARMAP)	http://gis.chicagopolice.org/
The University of Chicago GIS Data	http://www.lib.uchicago.edu/e/su/maps/chigis.html
Illinois Rivers Decision Support System	http://ilrdss.sws.uiuc.edu/links/maps.asp
Illinois Department of Transportation: T2 GIS Data	http://gis.dot.illinois.gov/gist2/
Illinois County GIS Links	http://www.gis2gps.com/GIS/illcounties/illcounties.html

2.5.3.2 Standard GIS Analyses

Once the project, environmental, socio-economic, and cultural data have been collected, the MPOs can perform the standard GIS analyses, which compare the location of projects with locations of the environmental, socio-economic, or cultural resources through quantifying resources within a specified buffer area of candidate transportation projects (FDOT 2006). These standard GIS analyses should be conducted following the established standardized criteria and metrics (described in section 2.5.3.4). Examples of such standard GIS analyses include computing the acreage of wetlands and the number of known historical and archaeological sites within a defined buffer area, quantifying demographic information within defined community boundaries, etc. The types of standard GIS analyses depend on the availability of data collected in the previous step, and the type of tool to conduct the GIS analyses. Based on the expert interview results and meetings with experts from the TRP, Arc-GIS is the recommended tool.

2.5.3.3 Evaluation of Project Effects

After the MPOs conduct the standard GIS analyses, they should upload the results into the Common Database and submit the results to the Inter-Agency Advisory Group for review and comments. Once receiving the GIS analyses results, the Inter-Agency Advisory Group should

evaluate the potential effects of the proposed project on environmental, socio-economic, and cultural resources. The evaluation includes performing the following tasks for each proposed project (FDOT 2006):

- Reviewing and commenting on the standard GIS analyses results conducted during the Planning Screen;
- Evaluating the direct, indirect, and cumulative effects of the project on environmental, socio-economic, and cultural resources;
- Providing recommendations including avoidance, minimization, and/or mitigation measures that could reduce project effects on at-risk resources;
- Providing information about agency plans or other key data that affect the project area; and
- Identifying information gaps or data needed to support further evaluation.

The Designated Coordinators and Environmental Coordinators are responsible for maintaining a schedule for Inter-Agency Advisory Group responses and for verifying that all inputs from the group have been received within the specified review period.

2.5.3.4 Standardized Criteria and Metrics

Upon receiving the standard GIS analyses results, the Inter-Agency Advisory Group is responsible for evaluating the direct, indirect, and cumulative effects of each priority project. In order to standardize the evaluation procedure and make the results more comparable, the research team proposes establishing and using standardized criteria and metrics for conducting the effect evaluation. The following is a summary of existing environmental criteria and metrics and their corresponding guidance references, extracted from IDOT Bureau of Design and Environmental Manual (IDOT 2010). A list of specific indicators for assessing the impacts on environmental, social-economic, and cultural resources can be found in Appendix 1.

2.5.3.4.1 Direct effects, indirect effects, and cumulative effects

Direct effects are caused by an action and occur at the same time and place as the action (USGPO 2012). Indirect effects are those effects that occur as a result of reasonably foreseeable actions (e.g. land use changes such as residential or business development) that will "accompany or occur after completion of the project and that are assumed to be induced by the project" (IDOT 2010). Cumulative effects are the total effects on specific resources that are anticipated to result from the proposed project (IDOT 2010).

Guidance references:

- 40 CFR 1502.16(b) Discussion within Environment Consequences Section (USGPO 2012)

- 40 CFR 1508.7 Definition of Cumulative Impact (USGPO 2012)
- 40 CFR 1508.8 Definition of Direct and Indirect Effects (USGPO 2012)
- CEQ Q&A, Question 18 Uncertainties on Indirect Effects (CEQ 1981)
- Considering Cumulative Effects under the National Environmental Policy Act(CEQ 1987)
- Interim Guidance: Questions and Answers Regarding Indirect and Cumulative Impact Considerations in the NEPA Process (FHWA 2003)

2.5.3.4.2 Environmental resources evaluation

Environmental resources evaluation should address, but are not limited to the following issues (IDOT 2010):

Agricultural: Determine the agricultural land uses in the area the project may affect including estimating the total amount of farmland and the amount of prime and important farmland to be converted to non-agricultural use because of the project.

Guidance references:

- Paragraph V.G.2. of FHWA Technical Advisory T6640.8A Farmland Impacts (FHWA 1987)
- Section 26-10 Evaluations of Farmland Conversion Impacts of IDOT Bureau of Design and Environmental Manual (IDOT 2010)
- Illinois Department of Transportation's Agricultural Land Preservation Policy and Cooperative Working Agreement (Illinois General Assembly 1993)
- 505 ILCS 75/1 et seq., Illinois Farmland Preservation Act (Illinois General Assembly 1982)

Air quality: Assess the potential effects on air quality caused by the proposed project including the micro-scale air quality analysis, air quality conformity determination, construction-related particulate matter evaluation, and mobile source air toxics evaluation.

Guidance reference:

- Paragraph V.G.8. of FHWA Technical Advisory T6640.8A Air Quality Impacts (FHWA 1987)
- Section 26-11 Air Quality Conformity Documentation of IDOT Bureau of Design and Environmental Manual (IDOT 2010)

Natural resources: Identify the important plant communities (cover types), wildlife habitats, important plant, wildlife species, wildlife groups, federal and/or state endangered or threatened species, and federal or state designated lands within the scope of the project.

Guidance references:

- Section 26-17 Tree/Vegetation Assessments of IDOT Bureau of Design and Environmental Manual (IDOT 2010)
- Section 26-18 Invasive Species and Noxious Weeds of IDOT Bureau of Design and Environmental Manual (IDOT 2010)
- Section 26-14 Migratory Birds of IDOT Bureau of Design and Environmental Manual (IDOT 2010)
- Section 26-15 Wildlife Resources of IDOT Bureau of Design and Environmental Manual (IDOT 2010)
- Paragraph V.G.18. of FHWA Technical Advisory T6640.8A Threatened and Endangered Species (FHWA 1987)
- Section 26-9 Threatened and Endangered Species/Natural Area Impact Assessments of IDOT Bureau of Design and Environmental Manual (IDOT 2010)
- Chapter 27 Environmental Surveys of IDOT Bureau of Design and Environmental Manual (IDOT 2010)
- Section 26-9 Threatened and Endangered Species/Natural Area Impact Assessments of IDOT Bureau of Design and Environmental Manual (IDOT 2010)
- Chapter 27 Environmental Surveys of IDOT Bureau of Design and Environmental Manual (IDOT 2010)

Water resources and aquatic habitats: Identify water resource cover types (e.g., riverine, lacustrine, ponds) and watershed(s) within the project area, and estimate their acreages.

Guidance references:

- Paragraph V.G.10. of FHWA Technical Advisory T6640.8A Water Quality Impacts"(FHWA 1987)
- Paragraph V.G.11. of FHWA Technical Advisory T6640.8A Permits (FHWA 1987)
- Paragraph V.G.13. of FHWA Technical Advisory T6640.8A Water Body Modifications and Wildlife Impacts (FHWA 1987)
- Paragraph V.G.15. of FHWA Technical Advisory T6640.8A Wild and Scenic Rivers (FHWA 1987)
- Section 26-18 Water and Aquatic Resources of IDOT Bureau of Design and Environmental Manual (IDOT 2010)
- Section 26-19 Nationwide Rivers Inventory of IDOT Bureau of Design and Environmental Manual (IDOT 2010)
- Section 26-20 Impaired Waters/TMDLs of IDOT Bureau of Design and Environmental Manual (IDOT 2010)

- Chapter 28 Environmental Permits/Certifications of IDOT Bureau of Design and Environmental Manual (IDOT 2010)

Groundwater: Identify aquifers, aquifer recharge areas, groundwater class, groundwater quality, affected public and private drinking water wells, wellhead protection zones, and sources of groundwater degradation for the project area.

Guidance references:

- Section 26-21 Groundwater of IDOT Bureau of Design and Environmental Manual (IDOT 2010)

Floodplains: Evaluate the 100-year floodplain within the proposed project area and identify base floodplains and floodways where applicable. Consideration includes the natural and beneficial floodplain values, regulatory floodways, and types of existing floodplain encroachments.

Guidance references:

- Paragraph V.G. 14. of FHWA Technical Advisory T6640.8A Floodplain Impacts (FHWA 1987)
- Section 26-7 "Floodplains" of IDOT Bureau of Design and Environmental Manual (IDOT 2010)
- Chapter 28 Environmental Permits/Certifications of IDOT Bureau of Design and Environmental Manual (IDOT 2010)

Wetlands: Identify the wetlands affected by the proposed project considering the wetland functions and characteristics.

Guidance references:

- Paragraph V.G.12 of FHWA Technical Advisory T6640.8A Wetlands Impacts (FHWA 1987)
- Section 26-8 Wetlands of IDOT Bureau of Design and Environmental Manual (IDOT 2010)
- Chapter 28 Environmental Permits/Certifications of IDOT Bureau of Design and Environmental Manual (IDOT 2010)

Special waste: Identify the special waste including potentially infectious medical waste, hazardous waste, industrial process waste, or pollution control waste, within the project area and determine if special waste investigations are necessary.

Guidance references:

- Paragraph V.G.20. of FHWA Technical Advisory T6640.8A Hazardous Waste Sites (FHWA 1987)
- Section 27-3 Special Waste Procedures of IDOT Bureau of Design and Environmental Manual (IDOT 2010)

Special lands: Identify the locations of special lands including lands that have Land and Water Conservation (LAWCON) or Open Space Lands Acquisition and Development (OSLAD) funds involved in their purchase or development within the project area.

Guidance references:

- Section 26-3 Section 6(f) Conversion Request of IDOT Bureau of Design and Environmental Manual (IDOT 2010)
- Section 26-4 OSLAD Land Conversion Request of IDOT Bureau of Design and Environmental Manual (IDOT 2010)

2.5.3.4.3 Socio-economic resources evaluation

Socio-economic resources evaluation should address the following five perspectives of issues: demographic, economic, neighborhoods, public facilities/services, and local planning. The five socio-economic resources evaluation issues and the types of effects that should be identified and analyzed for each issue are:

Demographic issues: population, race, and family income;

Economic issues: employment, major businesses, residential and business relocations, parking losses, property tax loss;

Neighborhoods issues: ethnic composition, population distribution, growth characteristics;

Public facilities/services issues: churches, temples or mosques, hospitals or other medical facilities, educational issues, police and fire protection, and other emergency services; and

Local planning issues: land use, residential relocations, business relocations, businesses to remain, pedestrian and bicycle facilities.

Guidance references:

- IDOT Community Impact Assessment Manual (IDOT 2007)
- Community Impact Assessment: A Quick Reference for Transportation (FHWA 1996)
- Paragraph V.G.1. of FHWA Technical Advisory T6640.8A Land Use Impacts (FHWA 1987)

- Paragraph V.G.3. of FHWA Technical Advisory T6640.8A Social Impacts (FHWA 1987)
- Paragraph V.G.4. of FHWA Technical Advisory T6640.8A Relocation Impacts (FHWA 1987)
- Paragraph V.G.5. of FHWA Technical Advisory T6640.8A Economic Impacts (FHWA 1987)
- CEQ Q&A, Question 23 Conflicts Between Proposed Action & Land Use Plans (CEQ 1981)

2.5.3.4.4 Cultural resources evaluation

The cultural resources evaluation requires the identification of the potential significant archaeological sites, historic bridges, and historic districts and buildings within the surrounding cultural features of the proposed project.

Guidance references:

- Paragraph V.G.19 of FHWA Technical Advisory T6640.8A Historic and Archeological Preservation (FHWA 1987)
- Section 26-2 Section 4(f) Evaluations of IDOT Bureau of Design and Environmental Manual (IDOT 2010)
- Section 26-5 Historic Act Compliance Documentation of IDOT Bureau of Design and Environmental Manual (IDOT 2010)

2.5.3.5 Planning Screen Summary Report

The Planning Summary Report summarizes the key recommendations and conclusions for the direct, indirect, and cumulative effects to assist planners to more effectively balance land use decisions and transportation investment with environmental, socio-economic, and cultural resource considerations. After the Inter-Agency Advisory Group finishes the evaluation of the proposed project, the Designated Coordinators and Environmental Coordinators are responsible for developing the Planning Screen Summary Report based on the input from the Inter-Agency Advisory Group. The Planning Screen Summary Report should include the following contents:

- Project description;
- Project location map;
- GIS mapping depicting environmental, socio-economic, and cultural resources;
- GIS mapping depicting project relationship to resources;
- Inter-Agency Advisory Group comments, conclusions, and recommendations for potential direct, indirect, and cumulative project effects on resources; and

- Responses to the Inter-Agency Advisory Group comments, conclusions, and recommendations.

Once the Designated Coordinators and Environmental Coordinators complete the Planning Screen Summary Report, they should upload the report into the Common Database, and forward the summary report to the corresponding project study group when the project proceeds to corridor/feasibility study or Phase I Design study.

2.5.4 Develop Multi-Year Program (MYP)

In order for the projects to get funded and implemented, project concepts are submitted to IDOT Districts for review and comment. The Districts will further refine the scope, cost, and schedule accordingly, and forward the refined project concepts to the IDOT Office of Planning and Programming. Based on a statewide assessment of highway improvement needs and available funds, the IDOT Office of Planning and Programming will select candidate projects and develop the IDOT's proposed Multi-Year Program (MYP). This will establish an individual project as an active project for further development. IDOT Districts should coordinate with MPOs (through the Designated Coordinators) and should also solicit the feedback of Resource (through the Environmental Coordinators) Agencies during the preparation of the MYP.

2.5.5 Conduct Programming Screen

Once priority projects have been included in the IDOT's Multi-Year Program (MYP), IDOT Districts – in cooperation with Designated Coordinators, Environmental Coordinators, and Inter-Agency Advisory Group – will conduct the Programming Screen, using a GIS-based tool, for analyzing the potential environmental, socio-economic, and cultural effects of a priority project. Some priority projects may have been evaluated during the Planning Screen, then the IDOT Districts, MPO Designated Coordinators, Environmental Coordinators, and Inter-Agency Advisory Group will update the Planning Screen evaluation based on newly available data. For projects have not been screened, they will be evaluated for the first time during the Programing Screen.

The following is a descriptive summary of the main features of the Programming Screen:

- Conducting an environmental screening of priority projects, at the District level and using a GIS-based tool, once they have been included in the IDOT's multi-year program (MYP).
- Engaging Resource Agencies in environmentally screening priority projects during the Programming Screen.
- Establishing and using standardized environmental criteria and metrics for environmentally assessing projects during the Programming Screen.

- Informing Phase I consultants, IDOT in-house staff, and Resource Agencies involved in the NEPA process of the results of the Programming Screen.
- Uploading and storing the data and results of the Programing Screen in a Common Database.

The Programming Screen process is similar to Planning Screen process but with slightly different objectives which focus on project-specific technical studies and analyses that are needed to satisfy NEPA. These two processes both begin with data collection and standard GIS analyses. IDOT Districts will collect project data, environmental, socio-economic, and cultural resources data for a newly-screened project or update these data if the project has been evaluated in a previous Planning Screen. IDOT Districts should also coordinate with MPO Designated Coordinators and Environmental Coordinators, if/as necessary, to gather data and information for the Programming Screen. IDOT Districts will then upload the collected data into the Common Database or update the data already in the database, and perform standard GIS analyses based on the availability of environmental, socio-economic, and cultural resources data. Based on results of the expert interviews, the recommended GIS tool to perform the standard GIS analyses is Arc-GIS.

After the IDOT Districts conduct the standard GIS analyses, they will upload the results into the Common Database and submit the results to the Inter-Agency Advisory Group for effects evaluation. The Inter-Agency Advisory Group has different responsibilities when evaluating the potential effects of the proposed project on environmental, social-economic, and cultural resources. The major tasks the Inter-Agency Advisory Group will accomplish during the Programming Screen are:

- Reviewing and commenting on the standard GIS analyses results conducted during the Programming Screen;
- Evaluating the direct, indirect, and cumulative effects of a project on environmental, socio-economic, and cultural resources;
- Providing recommendations including avoidance, minimization, and/or mitigation measures that could reduce project effects on at-risk resources;
- Providing information about agency plans or other key data that affect the project area;
- Identifying information gaps or data needed to support further evaluation;
- Recommending technical studies in support of focused project delivery;
- Identifying and documenting anticipated permits that may be needed during the integrated processes;
- Assisting FHWA and IDOT in determination of the Class of Action for NEPA process; and
- Assisting IDOT Districts in developing an outline of the scope of work for project development.

The Designated Coordinators and Environmental Coordinators are responsible for maintaining a schedule for Inter-Agency Advisory group responses and for verifying that all inputs from the Inter-Agency Advisory Group have been received within the specified review period. After the Inter-Agency Advisory Group finishes the evaluation of the proposed project, the Designated IDOT Districts Coordinators, in consultation with Designated MPO Coordinator and Environmental Coordinators, will develop the Programming Screen Summary Report based on the input from the Inter-Agency Advisory Group. The Programming Screen Summary Report includes the following contents:

- Project description;
- Project location map;
- GIS mapping depicting environmental, socio-economic, and cultural resources;
- GIS mapping depicting project relationship to resources;
- Inter-Agency Advisory Group comments, conclusions, and recommendations for potential direct, indirect, and cumulative project effects on resources;
- Responses to the Inter-Agency Advisory Group comments, conclusion, and recommendations;
- Class of Action determination; and
- Scope of work outline.

Once the Designated Coordinators complete the Programming Screen Summary Report, they will upload the report into the Common Database, and forward the Summary Report to the corresponding project study group when the project proceeds to corridor study or Phase I Design study.

2.5.6 Assign Project Study Group

After the project is included in the IDOT's MYP, a project study group within the district Bureau of Program Development will be assigned to initiate the corridor/feasibility study or the Phase I Design studies. Different number and expertise of staff will be initially assigned according to the scope and nature of the proposed project. The study group engineers will lead the project through the Phase I Design study process and will assume the following responsibilities (IDOT 2010):

- Coordinating directly with other units within IDOT;
- Attending all internal meetings and field inspections;
- Ensuring that the project study meets all IDOT criteria and procedures;
- Reporting directly to the district Program Development Engineer on all significant project activities, problems, and developments; and
- Participating in the public involvement process.

2.5.7 Conduct Context Sensitive Solution (CSS) Process

Once the project is included in IDOT's proposed MYP and its scope has been defined, and IDOT decides that the project is to be developed using the principles of Context Sensitive Solutions (CSS), the project study group should be informed and adopt the stakeholder involvement process for public involvement. The project study group will assist the district in developing a preliminary list of stakeholders and expand the list as Phase I Design continues, if/as needed. After a preliminary list of stakeholders is compiled, the project study group will develop a Stakeholder Involvement Plan (SIP) that identifies who the stakeholders are, how they are going to be reached, and a tentative schedule of meetings. The project study group needs to conduct initial information meetings with stakeholders to explain the ground rules of the stakeholder involvement process, and present its vision of the transportation problem and preliminary proposed solutions. To further assure congruence between the IDOT's assessment of the problem(s) to be addressed and those recognized by the community, the project study group should solicit stakeholders' understandings about the existing transportation problems as inputs for developing the project purpose and need. During the Phase I Design, the project study group should continue soliciting inputs from stakeholders when developing preliminary alternatives, and gathering feedback from the stakeholders when refining and eliminating alternatives. When deciding on the preferred alternative, the project study group needs to ensure that all reasonable concerns have been addressed and all conflicts resolved. Throughout the stakeholder involvement process, the goal of the project study group is to reach consensus on the project purpose and need, project scope, and design elements among all the stakeholder groups and IDOT.

2.5.8 Define Preliminary Purpose and Need

For a major transportation project, the project study group must first define the project purpose and need, which will direct the process for the identification of alternatives, in-depth analyses and, ultimately, selection of the preferred alternative. This will consist of reaffirming the need for the proposed improvement, establishing project goals and objectives, and establishing the study area and logical termini. Previous studies and decisions (including the Programming Screen) should be reaffirmed and/or updated as necessary.

2.5.9 Conduct Corridor/Feasibility Study

A corridor study is initiated to investigate all feasible corridors within a regional area as determined by the route planning process, and is typically required for a major highway project on new location of significant length and having multiple available corridors. A feasibility study is conducted to evaluate whether a proposed highway improvement warrants further study. In some cases, a corridor study could be considered as a feasibility study.

The following is a descriptive summary of the main added features to the corridor/feasibility study preparation:

- Conducting corridor studies and feasibility studies in compliance with NEPA requirements.
- Providing Phase I consultants involved in preparing corridor studies and/or feasibility studies with the data and results of the Planning Screen and Programming Screen.

Based on the project preliminary purpose and need and the general project proposal, the project study group will first identify a list of preliminary corridors.

Once preliminary corridors have been identified, the project study group must collect and inventory the engineering, environmental, socio-economic, and cultural data/information on each corridor. At this time, the project study group is provided with the data and the summary reports of the previous project's Planning Screen and Programming Screen, and with access to the Common Database.

Then the project study group will evaluate each preliminary corridor by reviewing existing conditions within the proposed corridors based on the available information and data. The project study group should coordinate with the Designated Coordinators and Environmental Coordinators, if/as necessary, in identifying reasonable corridors, and collecting data. The project study group should conduct a series of public involvement activities including informing and updating the public of the corridor study status and soliciting public inputs and comments. Then the project team should determine the reasonable corridors based on the evaluation of the corridors and the inputs from other agencies and the public.

Once the reasonable corridors have been selected, the project study group will further identify and evaluate the detailed engineering, environmental, socio-economic, and cultural issues related to the alternatives within each corridor in order to compare the different reasonable corridors. After conducting the comparison of all reasonable corridors, the project study group in conjunction with the district Environmental Unit will determine the recommended corridor and start preparing the draft Corridor Report once the recommended corridor and the reasons to select it are reviewed and approved by the IDOT Bureau of Design Environment (BDE). Once the draft Corridor Report has been properly developed and approved by the BDE, the project study group will conduct the corridor public hearing to present to the public, and other interested organizations and agencies, the corridor alternative under final consideration, a summary of the analyses of alternatives, and the criteria used to select the recommended corridor. Based on the results of the corridor public hearing and previous study analyses, the project study group will select the preferred corridor for the project and develop the corridor study report.

In order to incorporate the effort and results of the corridor study into the successive NEPA study, the research team recommends that the project study group conduct the corridor study in

compliance with the NEPA requirements, i.e. the corridor study should meet both the NEPA regulatory and documentation requirements.

2.5.9.1 Meeting the NEPA regulatory requirements

While the project study group is responsible for developing the corridor study, the Federal Highway Administration (FHWA) is ultimately responsible for ensuring NEPA compliance of transportation projects and therefore will make the final determination whether the corridor study can be used to support decision-making during NEPA. As a threshold matter, the corridor study must meet the regulatory criteria for use of a corridor study in NEPA. The NEPA regulations that the project study group should comply with when conducting the corridor study are:

- National Environmental Policy Act of 1969 (USGPO 2006)
- 40 CFR Part 1500, CEQ Regulations for Implementing NEPA (USGPO 2012)
- 23 CFR Part 450, Statewide Transportation Planning: Metropolitan Transportation Planning (USGPO 2004)
- 23 CFR Part 771, Environmental Impact and Related Procedures (USGPO 2005)
- Appendix A to 23 CFR Part 450-Linking the Transportation Planning and NEPA Processes (UGPO 2004)
- SAFETEA-LU (Public Law 109-59) Environmental Review Process FHWA/FTA Final Guidance (USGPO 2007)
- FHWA Technical Advisory T 6640.8A, October 30, 1987 Guidance for Preparing and Processing Environmental and Section 4(f) Documents (FHWA 1987)

2.5.9.2 Meeting the NEPA documentation requirements

The Integrated IDOT-MPO-NEPA Planning Process can take considerable time and involves many individuals, agencies, and stakeholder groups. From the corridor study through the NEPA study, there might be staff turn-over, and even if there is no staff turn-over, typically different staff are involved at the NEPA study stage. In these cases, the individuals instrumental to corridor study decisions can be difficult to reach and the analyses or decisions made in the corridor study are unnecessarily revisited when project-level NEPA study begins. Therefore, a good documentation which meets the NEPA documentation requirements could avoid duplication of work and help the project study group better use the corridor study to inform the NEPA study. A good documentation should meet the following requirements (FHWA 2011):

- Explaining the thought process underlying analytical conclusions and decisions, particularly when alternatives are analyzed and screened or eliminated;
- Describing the information used at the corridor study stage, including what the information is, how current or complete it is, and how reliable it is over time; and
- Documenting the public and agency involvement activities during the corridor study process.

2.5.10 Conduct Phase I Design (NEPA Study)

Based on the preliminary purpose and need, general project concept, and project corridor study (if applicable), the project study group can identify preliminary alignments as the starting point of Phase I Design. If the project corridor study has been conducted, the project study group should review the corridor study report and examine its validity. The project study group should assess any changes in the project as well as environmental and socio-economic information to determine if corridor modification should be considered.

Once the preliminary alignments have been identified, the district Environmental Unit will initiate the NEPA study. Depending on the project impact, the NEPA study may involve either a Categorical Exclusion (CE), an Environmental Assessment (EA), or an Environmental Impact Statement (EIS). The NEPA study will be conducted concurrently with Phase I Design. The project study group needs to consider the following factors when determining whether or not to use the corridor study in the NEPA study (FHWA 2011):

- The age, relevance, and reliability of the corridor study, its data, and its analysis;
- Whether assumptions made in the corridor study are consistent with those to be used in the NEPA analysis;
- Inclusion of relevant stakeholders in the corridor study process, and how well the links and distinctions between the corridor study and NEPA processes were explained; and
- Availability of the corridor study for review and/or incorporation into the NEPA document.

The project study group must gather and inventory engineering, environmental, socio-economic, and cultural data/information on each alignment for further analysis. At this time, the project study group is also provided with the data and the summary reports of the project's Planning Screen and Programming Screen, and with access to the Common Database.

Based on the available data/information, the project study group in cooperation with IDOT Bureau of Design and Environment (BDE) will determine if further field work is necessary to verify or further evaluate the location, nature, and extent of potential resource involvement. If necessary, BDE will coordinate with responsible agencies and the project study group for the field survey. Using the data/information collected and the field survey results, the project study group will review and identify the project existing conditions and reduce the number of alternatives to a reasonable number that are representative of the spectrum of possible alternatives that satisfy the project purpose and need. The project study group should coordinate with the Designated Coordinators and Environmental Coordinators, if/as necessary, in identifying reasonable alignments and gathering data and information. If the Inter-Agency Advisory Group recommends developing technical studies to address particular issues raised during the programming phase, the project study group should submit the technical studies to the

Inter-Agency Advisory Group for review and acceptance before summarizing it in the study report. The project study group should also conduct a series of public involvement activities including informing and updating the public of Phase I Design status and soliciting public inputs and comments. Then the project study group will plot existing/proposed topography, typical sections, plan and profile for each reasonable alignment.

After reasonable alignments have been identified and the information is plotted on the plan sheets, further in-depth analyses will be necessary to assess the capability of each alternative to accomplish the project goals cost-effectively. Once the analyses of reasonable alignments are completed, the project study group will identify a recommended alignment considering the engineering factors; environmental, socio-economic, and cultural impacts; and public input.

After the recommended alignment has been selected, the project study group will prepare a number of technical reports to complete Phase I Design (IDOT 2010):

- Preliminary Drainage Report;
- Frontage Road/Service Drive and Access Road Justifications;
- Grade Separation/Road Closure Analysis;
- Crash Analysis Report Along Existing Route;
- Transportation Management Plan (TMP) Report;
- Preliminary Pavement Design Report;
- Agricultural Report;
- Noise and Air Quality Report;
- Water Quality Technical Report;
- Wetlands Technical Report;
- Tree Assessment Report;
- Biological Assessment or Detailed Action Report; and
- Geotechnical (Soils) Report.

2.5.11 Conduct Phase II Design

In Phase II Design, the responsibility of advancing the project will be transferred to the design squad within the district or a consultant. In order to finalize the project design, the design squad needs to prepare the following technical reports or plans:

- Structural report;
- Type, size, and location report;
- Geotechnical report;
- Right-of-way plan;
- Utility plans;
- Detailed bridge plan;
- Environmental mitigation plan;

- Detailed pavement design;
- Detailed construction plans;
- Specialized plans such as landscape plans, traffic signal plans, and rest area plans; and
- Erosion Control Plans.

To prepare for the construction phase, the design squad should also prepare and negotiate formal agreements between IDOT and local government, secure all permits, process utility agreements, and implement land acquisition. Then the design squad can prepare the final plans and specifications.

2.5.12 Conduct Phase III Construction

Once the project design has been finalized, land acquisition has been completed, and a contractor is awarded, Phase III Construction is initiated. Construction may require a few months to several years depending on the complexity of the construction. A typical highway project involves the following construction activities (IDOT 2012):

- Utility relocations;
- Applying environmental mitigation;
- Bridge work;
- Grading and paving; and
- Lighting and signing.

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APPENDIX 1

(List of Indicators)

The recommended indicators (recommended by the Research Team based on the referenced sources) for assessing the impacts on the environmental, socio-economic, and cultural resources are shown in the following list (FDOT 2006, IDOT 2010, Lei Zhang et al. 2013, USEPA 1996):

1. Environmental resources impact indicators:

Agricultural resources:

- Total amount of prime farmland within the buffer-zone of the project;
- Total amount of important farmland within the buffer-zone of the project;
- Air quality: Whether the project is located in the non-attainment area designated by National Ambient Air Quality Standards (NAAQS); and
- Vehicle-generated pollution emissions for different types of pollutants.

Natural resources:

- The sizes and types of upland plant communities within the buffer-zone of the project;
- The sizes and types of wildlife habitats within the buffer-zone of the project;
- The types of endangered or threatened species (federal or state listed) within the buffer-zone of the project; and
- The sizes and types of State Designated Lands (Illinois Natural Areas, Land and Water Reserves, and Nature Preserves).

Water resources and aquatic habitats:

- The sizes and types of water resources within the buffer-zone of the project; and
- The distance between identified water resources and road edge.

Groundwater:

- The sizes, types, and recharge area of aquifers within the buffer-zone of the project;
- The sizes and classes of groundwater within the buffer-zone of the project; and
- The number of public and private drinking water wells within the buffer-zone of the project.

Floodplains:

- The size of Federal Emergency Management Agency (FEMA) Flood Zone area (an area within the 100-year floodplain for which based flood elevations have been determined) within the buffer zone of the project.

Wetlands

- The sizes and types of wetlands within the buffer-zone of the project.

2. Social-economic resources impact indicators:

- Total land use of the project;
- The population density within the buffer-zone of the project;

- The ethnic composition of the population living within the buffer-zone of the project;
- The income distribution of the population living within the buffer-zone of the project;
- The age distribution of the population living within the buffer-zone of the project;
- The number and types of residential displacements due to the project;
- The number and types of business displacements due to the project;
- The number and types of transportation facilities with the buffer-zone project;
- The anticipated bicycle and pedestrian usage after the construction of the project; and
- The anticipated mobility after the construction of the project.

3. Cultural resources impact indicators:

- The number of archaeological sites within the buffer-zone of the project;
- The distance between the identified archaeological site and the project area;
- The number of historic bridges designated by National Register of Historic Places (NRHP) within the buffer-zone of the project;
- The distance between the identified historic bridge and the project area;
- The number of historic building designated by NRHP within the buffer-zone of the project;
- The distance between the identified historic building and the project area; and
- Whether the project is located in a historic district listed in the NRHP or designated by local ordinance.

ICT Project R27-132
Incorporating NEPA into IDOT and MPO Planning Processes

Internal Interim Report #4

(DRAFT)

Submitted by: **(Include Name and Address of Organization)**	**Department of Civil and Environmental Engineering** **University of Illinois at Urbana-Champaign** 205 N. Mathews Ave. Urbana, IL 61801
Investigator(s):	**Nora El-Gohary**, Assistant Professor **Liang Liu**, Associate Professor **Khaled El-Rayes**, Professor **Xuan Lv**, Graduate Student
Corresponding Investigator Name:	Nora El-Gohary
Corresponding Investigator Phone:	(217) 333-6620
Corresponding Investigator Fax:	(217) 265-8039
Corresponding Investigator Email:	gohary@illinois.edu
For Period:	Nov 01, 2013 – Mar 15, 2014
Status:	**DRAFT**

Table of Contents

1 INTRODUCTION

1.1 Project Motivation

The Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) issued a joint guidance on the environmental review process required by Section 6002 of the Safe, Accountable, Flexible, and Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) (FHWA 2006). The SAFETEA-LU provides new guidance on how to integrate transportation planning and the National Environmental Policy Act (NEPA) processes. However, the guidance does not provide well-defined and 'detailed enough' strategies or guidelines on how to integrate NEPA into transportation planning processes. Special emphasis is required on large-scale highway projects, since they tend to have a lengthy and costly NEPA process. There is a need to identify clear institutional strategies and guidelines on how to integrate NEPA into the IDOT Planning Process and the Metropolitan Planning Organization (MPO) Planning Process for large highway projects, in a manner to ensure, both, compliance with the NEPA and efficiency of project development in terms of time and cost.

1.2 Project Objectives

The main goal of this project is to assist IDOT in defining the guidelines on how to integrate the National Environmental Policy Act (NEPA) into the current IDOT Planning Process and Metropolitan Planning Organization (MPO) Planning Process for large-scale highway projects. Consultation will be sought from representatives of relevant state and federal regulatory and Resource Agencies, such as MPOs, FHWA, Illinois Environmental Protection Agency (IEPA), Illinois Dept. of Natural Resources (IDNR), and Illinois Historical Preservation Agency. The research team will seek guidance from the Technical Review Panel (TRP) for defining the list of relevant agencies and their representatives for consultation.

To accomplish this goal, the objectives of this project are to:

1) Provide a comprehensive review of literature of practices integrating NEPA into transportation planning processes in other states.
2) Gather feedback from inter and intra-departmental staff involved in the IDOT Planning Process, the MPO Planning Process, and the NEPA Process to evaluate the existing practices of integrating NEPA into transportation planning processes – for large highway projects.
3) Evaluate the impact of these practices on the project development process.
4) Identify (based on 1, 2, and 3 above) the key elements/practices that are needed to successfully integrate NEPA into the IDOT Planning Process and the MPO Planning Process for large-scale highway projects.
5) Develop a guidance document on how to integrate NEPA into the IDOT Planning Process and the MPO Planning Process for large-scale highway projects; and provide

recommendations on how to evaluate the integrated process. It is noted that the implementation of this guidance by MPOs will be voluntary.

1.3 Project Tasks and Deliverables

To accomplish the research objectives, the proposed methodology breaks down the research work into seven major tasks that will lead to five project deliverables, as shown in Figure 1.

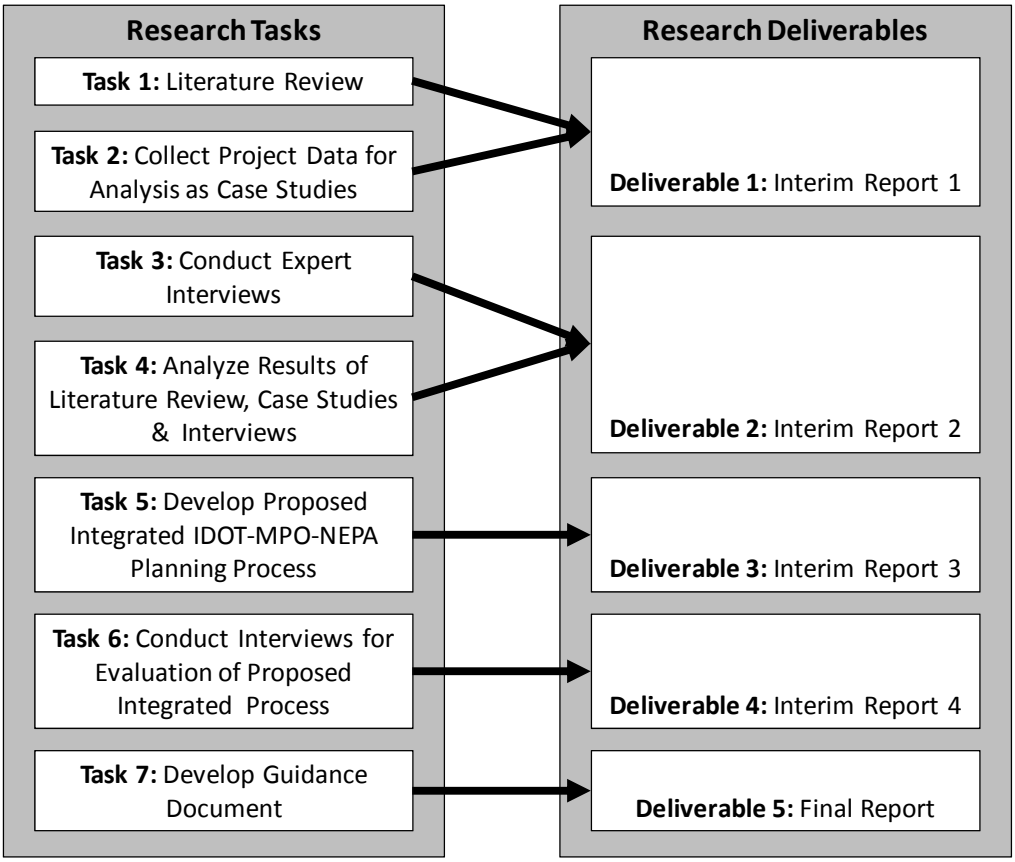

Figure 1 – Proposed Research Methodology

1.4 Scope and Organization of this Report

During this reporting period, the research team worked on Task 6 and Task 7. Task 6 started on Oct 31, 2013 and was completed on Feb 17, 2014. Task 6 focused on conducting a set of expert interviews for evaluation of the draft guidance document, including (1) the proposed Integrated IDOT-MPO-NEPA Planning Process and (2) the performance measures for evaluating the Integrated IDOT-MPO-NEPA Planning Process. This interim report summarizes the results of Task 6. Task 7 started on Oct 31, 2013 and will be completed on March 31, 2014. As part of Task 7, the research team developed the draft guidance document. The draft guidance document was evaluated using expert interviews (as per Task 6) and was revised based on expert feedback. The revised draft guidance document was sent to the experts and Technical Review Panel (TRP)

for a second and final round of review by email. The complete results of Task 7 (i.e. final guidance document) will be included in the Final Report. Accordingly, the rest of the report focuses on Task 6. The following is a brief description of Task 6.

Task 6 (Conduct Expert Interviews for Evaluation of Proposed Integrated IDOT-MPO-NEPA Planning Process): The research team worked on Task 6 which focused on conducting a second set of interviews with a selected set of experts to evaluate the draft guidance document, including (1) the proposed Integrated IDOT-MPO-NEPA Planning Process and (2) the performance measures for evaluating the Integrated IDOT-MPO-NEPA Planning Process. The research team targeted one or two experts from each of the following four groups of experts that were interviewed in Task 3 (at a total of eight experts): 1) IDOT Districts, 2) MPOs, 3) Resource Agencies, and 4) IDOT Office of Planning and Programming, IDOT Bureau of Design and Environment, and FHWA.

2 CONDUCT INTERVIEWS FOR EVALUATION OF THE INTEGRATED IDOT-MPO-NEPA PLANNING PROCESS (TASK 6)

2.1 Purpose and Methodologies

In order to provide effective guidance on how to integrate NEPA into the IDOT planning process and the MPO planning process for large-scale highway projects, the research team developed the draft guidance document based on the results of Task 1 to Task 5. The draft guidance document includes a brief description of the existing IDOT, MPO, and NEPA planning processes, a summary of the recommended integration practices, and the implementation details of both the recommended collaboration-oriented integration practices and the sub-processes of the integrated IDOT-MPO-NEPA Planning Process. The draft guidance document also provides a set of recommended performance measures to evaluate the performance of the Integrated IDOT-MPO-NEPA Planning Process.

To further evaluate the proposed integrated IDOT-MPO-NEPA Planning Process, the research team conducted a second round of one-to-one face-to-face interviews with staff from the following four groups of agencies: 1) IDOT Districts, 2) MPOs, 3) Resource Agencies, and 4) IDOT Office of Planning and Programming, IDOT Bureau of Design and Environment, and FHWA.

To solicit expert feedback on the guidance document in a structured and efficient manner, the research team developed a questionnaire, and sent the draft guidance document and the questionnaire to each of the interviewees two weeks prior to the interview to allow interviewees sufficient time for review. During each face-to-face interview, the research team (1) answered any questions that the interviewee had on the draft guidance document, (2) allowed the interviewee time to complete the questionnaire, and (3) solicited feedback/recommendations from the interviewee on how to revise the guidance document, if any. Based on the feedback

received during the face-to-face interviews, the research team revised the guidance document, and sent the revised guidance document to each of the interviewees for a second round of review. The interviewees were also requested to re-take the survey (i.e. fill the questionnaire a second time in view of the revisions made). The results of the pre-revision survey are presented in this interim report. The results of the post-revision survey will be presented in the Final Report (since the results of the second-round survey have not been received yet).

2.2 Questionnaire Design

The questionnaire was composed of five main sections: 1) Section 1: respondent information, 2) Section 2: collaboration-oriented integration practices, 3) Section 3: process-oriented integration practices, 4) Section 4: process representation and interactions, and 5) Section 5: performance measures for evaluation of the proposed Integrated IDOT-MPO-NEPA Planning Process. The complete list of questions in the questionnaire can be found in Appendix 1.

Section 1 aimed at collecting the following respondent information: name, contact information, the agency he/she represents, and years of experience. Figure 2 shows a snapshot of the respondent information page.

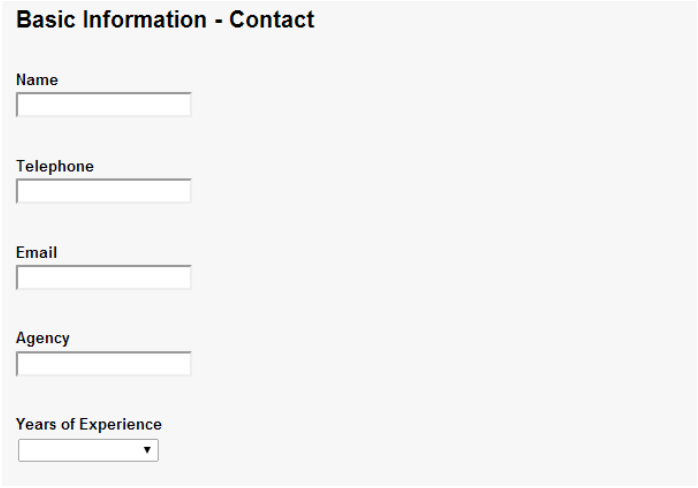

Figure 2 – Questionnaire: A Snapshot from Section 1 (Respondent Information)

For Section 2 to Section 5, a six-point Likert scale was used to record the responses of respondents, with 6 being the most favorable, as follows:

- Strongly Agree: 6
- Agree: 5
- Somewhat Agree: 4
- Somewhat Disagree: 3
- Disagree: 2
- Strongly Disagree: 1

For each question, respondents were also asked to specify any recommendations or suggestions they may have.

Section 2 aimed at collecting expert feedback on the implementation details of the collaboration-oriented integration practices. The questions in Section 2 asked whether the respondents agree with the functions of the Common Database, the responsibilities of the Designated Coordinators, the responsibilities of the Environmental Coordinators, the responsibilities of the Inter-agency Advisory Group, the composition of the Inter-agency Advisory Group, the description of Memorandums of Understanding (MOUs) and Programmatic Agreement, and the description training and outreach activities – all as described in the draft guidance document. Figure 3 shows a sample question from Section 2.

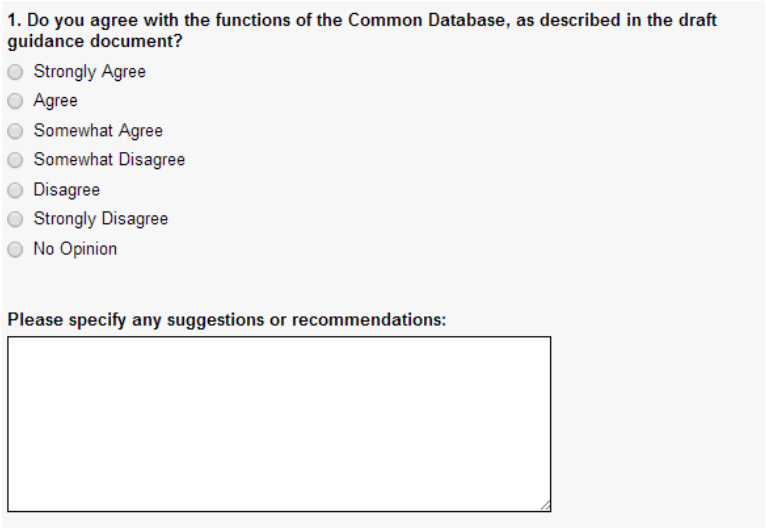

Figure 3 – Questionnaire: A Sample Question from Section 2 (Collaboration-Oriented Integration Practices)

Section 3 aimed at collecting expert feedback on the procedure for implementing the process-oriented integration practices, such as the procedure for interagency coordination during the development of the Long Range Transportation Plan (LRTP), the procedure for conducting the Planning Screen, the procedure for inter-agency coordination during the development of the Multi-Year Program (MYP), the procedure for conducting the Programming Screen, etc. – all as described in the draft guidance document. Figure 4 shows a sample question from Section 3.

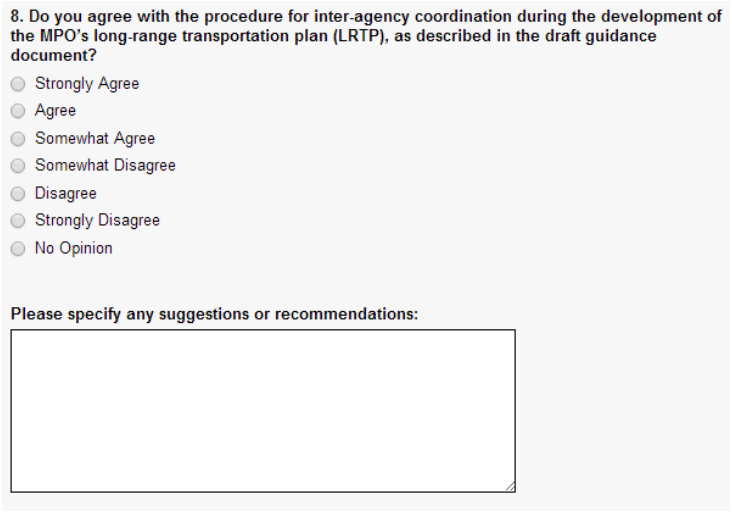

Figure 4 – Questionnaire: A Sample Question from Section 3 (Process-Oriented Integration Practices)

Section 4 aimed at collecting expert feedback on the process representation and interactions as shown in the IDOT-MPO-NEPA Integrated Planning Process Flowchart and the Input-Output-Actor Table – all as described in the draft guidance document. Figure 5 shows a sample question from Section 4.

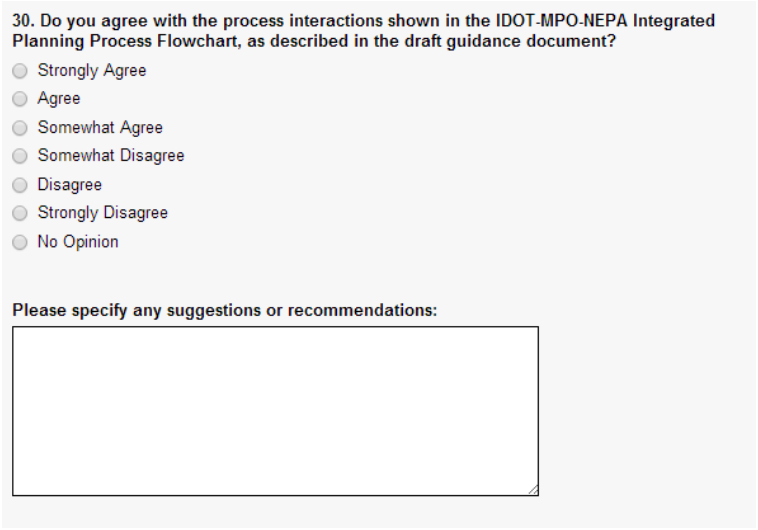

Figure 5 – Questionnaire: A Sample Question from Section 4 (Process Representation and Interactions)

Section 5 aimed at collecting expert feedback on the performance measures for evaluation of the proposed integrated IDOT-MPO-NEPA Planning Process. The recommended performance measures included inter-agency coordination and communication performance measures, project delivery performance measures, and compliance with NEPA requirements performance measures – all as described in the draft guidance. Figure 6 shows a sample question from Section 5.

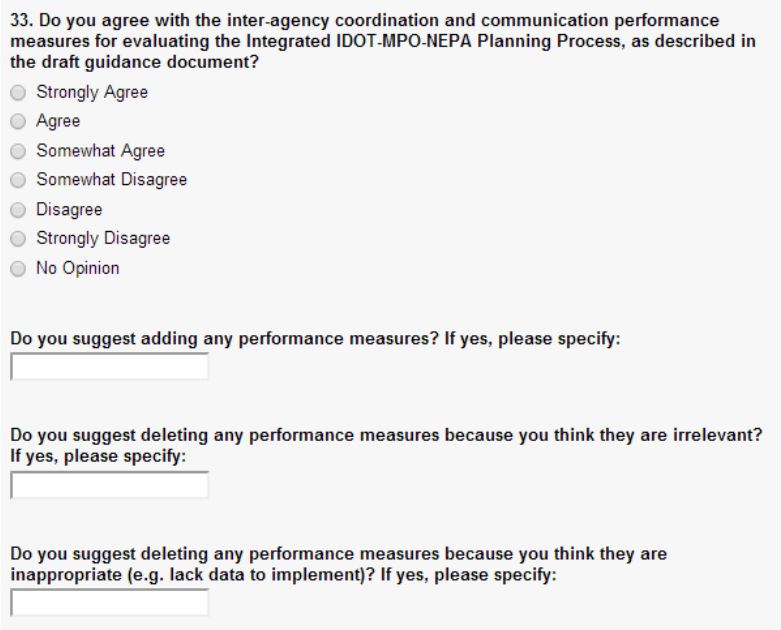

Figure 6 – Questionnaire: A Sample Question from Section 5 (Performance Measures for Evaluation of the Proposed Integrated IDOT-MPO-NEPA Planning Process)

2.3 Analysis of the Results of the Pre-Revision Survey

The research team conducted seven (7) one-to-one face-to-face expert interviews. The following sub-sections summarize the results of the survey and their analysis. For analyzing the results, the research team calculated the mean, standard deviation, and median scores. The interpretation of the results was based on the median scores.

2.3.1 Respondent Information

A summary of the results of Section 1 (respondent information) is shown in the Table 1.

Table 1: A Summary of Respondent Information

Agency	Number of Respondents	Years of Experience	Agency Group
IDOT District 6	1	Over 10 years	IDOT District
IDOT District 8	1	Over 10 years	IDOT District
IDOT	1	Over 10 years	IDOT Central Office and FHWA
FHWA	1	Over 10 years	IDOT Central Office and FHWA
Rockford Metropolitan Agency for Planning	1	Over 10 years	MPO
Champaign/Urbana Area Transportation Study	1	Over 10 years	MPO
Illinois State Archaeological Survey	1	Over 10 years	Resource Agency
Total	**7**		

2.3.2 Collaboration-Oriented Integration Practices

A summary of the results of Section 2 (collaboration-oriented integration practices) is shown in Table 2.

Table 2: A Summary of the Results of Section 2 (Collaboration-Oriented Integration Practices)

Implementation Details of Collaboration-Oriented Integration Practices	Mean Score	Standard Deviation	Median Score	Overall Opinion of Respondents (based on median)
1. Functions of the Common Database	5.43	0.53	5	Agree
2. Responsibilities of the Designated Coordinators	5.00	0.58	5	Agree
3. Responsibilities of the Environmental Coordinators	4.86	0.38	5	Agree
4. Responsibilities of the Inter-Agency Advisory Group	4.29	1.50	5	Agree
5. Composition (i.e. members) of the Inter-Agency Advisory Group	4.86	0.38	5	Agree
6. Descriptions of Memorandums of Understanding (MOUs) and Programmatic Agreements (PAs)	5.00	1.41	5	Agree
7. Descriptions of Training and outreach activities	5.29	0.49	5	Agree

For the Common Database, respondents recommended that the research team adds more details about how to build and maintain the Common Database.

For the Designated Coordinators, respondents suggested listing the responsibilities of Designated Coordinators from MPOs separate from the responsibilities of Designated Coordinators from IDOT Districts.

For the Inter-Agency Advisory Group, respondents suggested: (1) changing the following responsibility from “Evaluate and comment on the direct, indirect, and cumulative effects of project environmental, socio-economic, and cultural resources” to “Evaluate and comment on the known resource presence” and the following responsibility from “Assist IDOT Districts in developing an outline of the scope of work for project development” to “Assist IDOT Districts in developing an outline of the Purpose and Need for project development”, and (2) deleting the responsibility “Recommend potential avoidance, minimization, and/or mitigation measures”.

For the training and outreach activities, respondents recommended that the training and outreach activities be conducted initially face-to-face, and later through regular webinars. Respondents also suggested adding details about which agency is going to be responsible for coordinating the training and outreach activities.

2.3.3 Process-Oriented Integration Practices

A summary of the results of Section 3 (process-oriented integration practices) is shown in Table 3.

Table 3a: A Summary of the Results of Section 3 (Process-Oriented Integration Practices)-Part 1

Implementation Details of Process-Oriented Integration Practices	Mean Score	Standard Deviation	Median Score	Overall Opinion of Respondents (based on median)
8. Procedure for inter-agency coordination during the development of the MPO's LRTP	4.57	1.13	5	Agree
9. Procedure for conducting the Planning Screen	4.57	1.13	5	Agree
10. Procedure for inter-agency coordination during the Planning Screen	5.00	0.00	5	Agree
11. Recommended types of data to be collected during the Planning Screen	4.57	1.13	5	Agree
12. Procedure for standard GIS analyses during the Planning Screen	5.00	0.00	5	Agree
13. Procedure for evaluation of project effects during the Planning Screen	4.57	1.13	5	Agree
14. Use of the recommended criteria and metrics as standardized criteria and metrics during the Planning Screen	4.57	1.13	5	Agree
15. Use of the recommended indicators during the Planning Screen	4.14	1.21	5	Agree
16. Content of the Planning Screen Summary Report	5.00	0.58	5	Agree
17. Procedure for inter-agency coordination during the development of the IDOT's MYP	5.00	0.00	5	Agree
18. Procedure for conducting the Programming Screen	5.17	0.41	5	Agree
19. Procedure for inter-agency coordination during the Programming Screen	5.00	0.00	5	Agree
20. Recommended types of data to be collected during the Programming Screen	4.50	1.22	5	Agree
21. Procedure for standard GIS analyses during the Programming Screen	5.00	0.00	5	Agree

Table 3b: A Summary of the Results of Section 3 (Process-Oriented Integration Practices)-Part 2

Implementation Details of Process-Oriented Integration Practices	Mean Score	Standard Deviation	Median Score	Overall Opinion of Respondents (based on median)
22. Procedure for evaluation of project effects during the Programming Screen	5.00	0.00	5	Agree
23. Use of the recommended criteria and metrics as standardized criteria and metrics during the Programming Screen	4.67	0.82	5	Agree
24. Use of the recommended indicators during the Programming Screen	4.67	0.82	5	Agree
25. Content of Programming Screen Summary Report	5.17	0.41	5	Agree
26. Procedure for inter-agency coordination during the preparation of corridor/feasibility studies	4.83	0.41	5	Agree
27. Procedure for conducting corridor/feasibility studies according to NEPA regulatory requirements	4.83	0.41	5	Agree
28. Procedure for conducting corridor/feasibility studies according to NEPA documentation requirements	5.00	0.00	5	Agree
29. Procedure for inter-agency coordination during Phase I Design	5.00	0.00	5	Agree

For the procedure for inter-agency coordination during the development of the MPO's LRTP, respondents suggested not using the words "regionally significant" as MPO's LRTP can include all kinds of projects, not necessarily regionally significant projects.

For the procedure for evaluation of project effects during the Planning Screen, respondents suggested deleting the following two tasks:

- Evaluating the direct, indirect, and cumulative effects of the project on environmental, socio-economic, and cultural resources; and
- Providing recommendations including avoidance, minimization, and/or mitigation measures that could reduce project effects on at-risk resources.

For the contents of the Planning Screening Summary Report, respondents suggested changing the following item from "Inter-Agency Advisory Group comments, conclusions, and recommendations for potential direct, indirect, and cumulative project effects on resources" to "Inter-Agency Advisory Group comments and recommendations on known resource presence".

For the procedure for evaluation of project effects during the Programming Screen, respondents suggested changing the following task from “Evaluating the direct, indirect, and cumulative effects of a project on environmental, socio-economic, and cultural resources” to “Evaluating the project for different resources”.

For the contents of the Programming Screening Summary Report, respondents suggested changing the following item from “Inter-Agency Advisory Group comments, conclusions, and recommendations for potential direct, indirect, and cumulative project effects on resources” to “Inter-Agency Advisory Group comments, conclusions, and recommendations on potential effects on resources”, and changing the following item from “Scope of work outline” to “Outline of Purpose and Need”.

For the recommended criteria and metrics, respondents suggested:

(1) changing the following recommended criteria and metrics:

- Changing air quality to “Determine whether the project is located in the non-attainment area”.
- Changing natural resource to “Identify the federal and/or state endangered or threatened species, and federal or state designated lands within the scope of the project”.
- Changing water resources and aquatic to “Identify water resource cover types (e.g., riverine, lacustrine, ponds) and watershed(s) within the project area, and estimate their acreages”.
- Changing groundwater to “Identify aquifers, aquifer recharge areas, groundwater class, groundwater quality, public drinking water wells, and wellhead protection zones for the project area”
- Changing floodplains to “Evaluate the 100-year floodplain within the proposed project area and identify base floodplains and floodways where applicable”.
- Changing cultural resources to “The cultural resource analyses require the identification of the known archaeological sites, historic bridges, and historic districts and buildings”.

(2) deleting the following criteria and metrics:

- Direct effects, indirect effects and cumulative effects, as the evaluation of these effects require much more information that can’t be obtained during the Planning Screening and Programming Screening.
- Special waste, as it requires field survey and can’t be obtained through GIS analyses.

For the recommended indicators, respondents suggested (1) changing the description “buffer-zone of the project” to “project area”, and (2) deleting the following indicators:

- Vehicle-generated pollution emissions for different types of pollutants.
- The sizes and types of upland plant communities within the buffer-zone of the project;

- The sizes and types of wildlife habitats within the buffer-zone of the project;
- The distance between identified water resources and road edge.
- The number and types of residential displacements due to the project;
- The number and types of business displacements due to the project;
- The anticipated bicycle and pedestrian usage after the construction of the project; and
- The anticipated mobility after the construction of the project.
- The distance between the identified archaeological site and the project area;
- The distance between the identified historic bridge and the project area;
- The distance between the identified historic building and the project area.

2.3.4 Process Representation and Interactions

A summary of the results of Section 3 (process representation and interactions) is shown in Table 4.

Table 4: A Summary of the Results of Section 4 (Process Representation and Interactions)

Representation and Interaction of the Sub-Processes	Mean Score	Standard Deviation	Median Score	Overall Opinion of Respondents (based on median)
30. Process interactions shown in the IDOT-MPO-NEPA Integrated Planning Process Flowchart	5.14	0.38	5	Agree
31. Process inputs and outputs shown in the Input-Output-Actor Table	5.14	0.38	5	Agree
32. Process actors shown in the Input-Output-Actor Table	5.14	0.38	5	Agree

For process interactions, respondents suggested (1) adding the development of MPO's Transportation Improvement Program (TIP) as a sub-process, (2) changing the following sub-process from "Assign Project Study Group" to "Assign Project Group" as Project Study Group is tied only to projects following a Context Sensitive Solution (CSS) process, and (3) extending the duration of CSS sub-process to Phase III construction as the CSS process is initiated after the Project Group is assigned and continues until the end of Phase III.

2.3.5 Performance Measures for Evaluation of the Integrated IDOT-MPO-NEPA Planning Process

A summary of the results of Section 5 (performance measures for evaluation of the Integrated IDOT-MPO-NEPA Planning Process) is shown in Table 5.

Table 5: A Summary of the Results of Section 5 (Performance Measures for Evaluation of the Integrated IDOT-MPO-NEPA Planning Process)

Performance Measures for Evaluation of the Integrated IDOT-MPO-NEPA Planning Process	Mean Score	Standard Deviation	Median Score	Overall Opinion of Respondents (based on median)
33. Inter-agency coordination and communication performance measures	4.67	0.52	5	Agree
34. Project delivery performance measures	4.50	0.84	5	Agree
35. Compliance with NEPA requirements performance measures	4.43	1.13	5	Agree

For the performance measures for evaluation of the Integrated IDOT-MPO-NEPA Planning Process, respondents suggested adding details about which agency is going to be responsible for gathering the data and analyzing the performance measures.

For inter-agency coordination and communication performance measures, respondents suggested deleting the following performance measures as gathering the data required to calculate these performance measures would be too time-consuming:

- The percentage of MPO responses to the comments, inquires, and requests of information from Inter-Agency Advisory Groups completed within the defined response period, during the Planning Screens.
- The percentage of IDOT District responses to the comments, inquires, and requests of information from Inter-Agency Advisory Groups completed within the defined response period, during the Programming Screens.
- The percentage of Designated Coordinator responses to the inquires and requests of information from project study groups completed within the defined response period, during the preparation of corridor/feasibility studies.
- The percentage of Environmental Coordinator responses to the inquires and requests of information from project study groups completed within the defined response period, during the preparation of corridor/feasibility studies.
- The percentage of Designated Coordinator responses to the inquires and requests of information from project study groups completed within the defined response period, during the preparation of Phase I Design studies.
- The percentage of Environmental Coordinator responses to the inquires and requests of information from project study groups completed within the defined response period, during the preparation of Phase I Design studies.

For project delivery performance measures, respondents suggested deleting the following performance measures as the data required to calculate these performance measures would be difficult to obtain:

- The average length of Categorical Exclusion (CE) processing time.
- The percentage of projects that have completed the NEPA process within the planned schedule.
- The average length of time to conduct Phase I Design study.
- The percentage of projects that have completed Phase I Design study that meet proposed schedule.

Respondents also suggested defining the start and end times for the sub-processes measured by the project delivery performance measures.

For compliance with NEPA requirements performance measures, respondents suggested moving the performance measures in this category to the inter-agency coordination and communication performance measures.

APPENDIX 1

Questionnaire for Task 6
List of Questions

Collaboration-Oriented Integration Practices

1. Do you agree with the functions of the Common Database, as described in the draft guidance document?

   Please specify any suggestions or recommendations.

2. Do you agree with the responsibilities of the Designated Coordinators, as described in the draft guidance document?

   Please specify any suggestions or recommendations.

3. Do you agree with the responsibilities of the Environmental Coordinators, as described in the draft guidance document?

   Please specify any suggestions or recommendations.

4. Do you agree with the responsibilities of the Inter-Agency Advisory Group, as described in the draft guidance document?

   Please specify any suggestions or recommendations.

5. Do you agree with the compositions (i.e. members) of the Inter-Agency Advisory Group, as described in the draft guidance document?

   Please specify any suggestions or recommendations.

6. Do you agree with the description of Memorandums of Understanding (MOUs) and Programmatic Agreements (PAs), as described in the draft guidance document?

   Please specify any suggestions or recommendations.

7. Do you agree with the description of training and outreach activities, as described in the draft guidance document?

   Please specify any suggestions or recommendations.

Process-Oriented Integration Practices

LRTP

8. Do you agree with the procedure for inter-agency coordination during the development of the MPO's long-range transportation plan (LRTP), as described in the draft guidance document?

   Please specify any suggestions or recommendations.

Planning Screen

9. Do you agree with the procedure for conducting the Planning Screen, as described in the draft guidance document?

   Please specify any suggestions and recommendations.

10. Do you agree with the procedure for inter-agency coordination during the Planning Screen, as described in the draft guidance document?

    Please specify any suggestions and recommendations.

11. Do you agree with the recommended types of data to be collected during the Planning Screen, as described in the draft guidance document?

    Please specify any suggestions and recommendations.

12. Do you agree with the procedure for conducting the standard GIS analyses during the Planning Screen, as described in the draft guidance document?

    Please specify any suggestions and recommendations.

13. Do you agree with the procedure for evaluation of project effects during the Planning Screen, as described in the draft guidance document?

    Please specify any suggestions and recommendations.

14. Do you agree with the use of the recommended criteria and metrics as standardized criteria and metrics during the Planning Screen, as described in the draft guidance document?

    Do you suggest adding any criteria and metrics? If yes, please specify.

Do you suggest deleting any recommended criteria and metrics because you think they are irrelevant? If yes, please specify.

Do you suggest deleting any recommended criteria and metrics because you think they are inappropriate (e.g. lack data to implement)? If yes, please specify.

15. Do you agree with the use of the recommended indicators during the Planning Screen, as described in the draft guidance document:

    Do you suggest adding any indicators? If yes, please specify.

    Do you suggest deleting any recommended indicators because you think they are irrelevant? If yes, please specify.

    Do you suggest deleting any recommended indicators because you think they are inappropriate (e.g. lack data to implement)? If yes, please specify.

16. Do you agree with the content of the Planning Screen Summary Report, as described in the draft guidance document?

    Please specify any suggestions and recommendations.

MYP

17. Do you agree with the procedure for inter-agency coordination during the development of IDOT's multi-year program (MYP), as described in the draft guidance document?

    Please specify any suggestions and recommendations.

Programming Screen

18. Do you agree with the procedure for conducting the Programming Screen, as described in the draft guidance document?

    Please specify any suggestions and recommendations.

19. Do you agree with the procedure for inter-agency coordination during the Programming Screen, as described in the draft guidance document?

Please specify any suggestions and recommendations.

20. Do you agree with the recommended types of data to be collected during the Programming Screen, as described in the draft guidance document?

    Please specify any suggestions and recommendations.

21. Do you agree with the procedure for conducting the standard GIS analyses during the Programming Screen, as described in the draft guidance document?

    Please specify any suggestions and recommendations.

22. Do you agree with the procedure for evaluation of project effects during the Programming Screen, as described in the draft guidance document?

    Please specify any suggestions and recommendations.

23. Do you agree with the use of the recommended criteria and metrics as standardized criteria and metrics during the Programming Screen, as described in the draft guidance document?

    Do you suggest adding any criteria and metrics? If yes, please specify.

    Do you suggest deleting any recommended criteria and metrics because you think they are irrelevant? If yes, please specify.

    Do you suggest deleting any recommended criteria and metrics because you think they are inappropriate (e.g. lack data to implement)? If yes, please specify.

24. Do you agree with the use of the recommended indicators during the Programming Screen, as described in the draft guidance document:

    Do you suggest adding any indicators? If yes, please specify.

    Do you suggest deleting any recommended indicators because you think they are irrelevant? If yes, please specify.

    Do you suggest deleting any recommended indicators because you think they are inappropriate (e.g. lack data to implement)? If yes, please specify.

25. Do you agree with the content of the Programming Screen Summary Report, as described in the draft guidance document?

    Please specify any suggestions and recommendations.

Corridor/Feasibility Studies

26. Do you agree with the procedure for inter-agency coordination during the preparation of corridor/feasibility studies, as described in the draft guidance document?

    Please specify any suggestions and recommendations.

27. Do you agree with the procedure for conducting corridor/feasibility studies according to NEPA regulatory requirements, as described in the draft guidance document?

    Please specify any suggestions and recommendations.

28. Do you agree with the procedure for conducting corridor/feasibility studies according to NEPA documentation requirements, as described in the draft guidance document?

    Please specify any suggestions and recommendations.

Phase I Design

29. Do you agree with the procedure for inter-agency coordination during Phase I Design, as described in the draft guidance document?

    Please specify any suggestions and recommendations.

Process Representation and Interactions

30. Do you agree with the process interactions shown in the IDOT-MPO-NEPA Integrated Planning Process Flowchart, as described in the draft guidance document?

    Please specify any suggestions or recommendations.

31. Do you agree with the process inputs and outputs shown in the Input-Output-Actor Table, as described in the draft guidance document?

    Please specify any suggestions or recommendations.

32. Do you agree with the process actors shown in the Input-Output-Actor Table, as described in the draft guidance document?

    Please specify any suggestions or recommendations.

Evaluation of the Proposed Integrated IDOT-MPO-NEPA Planning Process

33. Do you agree with the inter-agency coordination and communication performance measures for evaluating the Integrated IDOT-MPO-NEPA Planning Process, as described in the draft guidance document?

    Do you suggest adding any performance measures? If yes, please specify.

    Do you suggest deleting any performance measures because you think they are irrelevant? If yes, please specify.

    Do you suggest deleting any performance measures because you think they are inappropriate (e.g. lack data to implement)? If yes, please specify.

34. Do you agree with the project delivery performance measures for evaluating the Integrated IDOT-MPO-NEPA Planning Process, as described in the draft guidance document?

    Do you suggest adding any performance measures? If yes, please specify.

    Do you suggest deleting any performance measures because you think they are irrelevant? If yes, please specify.

    Do you suggest deleting any performance measures because you think they are inappropriate (e.g. lack data to implement)? If yes, please specify.

35. Do you agree with the compliance with NEPA requirements performance measures for evaluating the Integrated IDOT-MPO-NEPA Planning Process, as described in the draft guidance document?

    Do you suggest adding any performance measures? If yes, please specify.

Do you suggest deleting any performance measures because you think they are irrelevant? If yes, please specify.

Do you suggest deleting any performance measures because you think they are inappropriate (e.g. lack data to implement)? If yes, please specify.


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