

## 201 Step 1 - Work with Stakeholders to Understand Problems, Needs, and Goals

To achieve the objectives in Step 1, it is necessary to begin some Step 2 activities during Step 1. Primarily, these Step 2 activities involve data collection and some preliminary analysis about the problem and providing this information to stakeholders so that they may make intelligent choices about the problems, needs, and goals during Step 1.

### 201.1 Project Manager

ODOT usually assigns a district staff member as project manager for Major Projects, and ODOT's Office of Urban and Corridor Planning and Office of Environmental Services will assign a staff liaison to every major planning study. Because Major Projects must deal with varying issues and stakeholders during the planning process steps, the project manager should work closely with the central office staff liaisons to insure that the activities and products fulfill the intent of the planning PDP steps.

The project manager must verify that the project has been entered into Ellis and a Project Identification number (PID) has been assigned. The project manager should also identify a team responsible to complete the work required by the PDP. To begin the process, the "kick-off" meeting is held during this step.

### 201.2 Study Area

Defining an adequate study area is critical to project success. The study area size determines the general area for which data is to be collected and from which the stakeholders are to be identified and engaged. The initial study area limits should have been identified through the long range planning or systems analysis that identified the problem. During Step 1, the study area is verified and refined based on input from the ODOT technical staff, stakeholders, and consultants. The study area is typically larger than the project area. The study area must be big enough to include all areas that contribute to the transportation problem and encompass the range of alternative solutions appropriate to solving the problem.

As identified in Appendix B, ODOT Office of Urban and Corridor Planning should, prior to publication and distribution, be given an opportunity to review and comment on the Study Area determination.

### 201.3 Stakeholder Involvement

Stakeholder involvement is **essential for every step in the Major PDP**. Stakeholders provide information and offer a unique perspective in identifying the problem and what changes or improvements are needed to have a successful project. Stakeholder involvement is also required by FHWA during the planning and environmental processes. ODOT's *Public Involvement Guide* and *Guidance for Best Practices for Incorporating Environmental Justice into Ohio Transportation and Environmental Processes* manuals should be consulted and followed for details on how to identify and involve stakeholders and how to conduct successful public involvement for a Major PDP.

*Stakeholders* are individuals and groups who are or may be impacted by or have an interest in the project. In some cases, federal regulations define who are stakeholders. Typically stakeholders include

#### Objectives

- Define the study area
- Identify and work with stakeholders, including environmental justice populations
- Develop Public Involvement Plan
- Develop stakeholder goals and measures of project success
- Refine Planning Study Scope of Services
- Update cost estimates and milestone dates

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professional and technical staff from ODOT and affected local governments and agencies, elected and appointed officials, the general public, people and businesses and environmental justice populations in the project area. Stakeholders for environmental justice include low-income and minority populations within the study area. Demographic analysis conducted in Step 2 should be used to identify environmental justice populations. The text box to the right lists typical stakeholders.

## Examples of Stakeholders

- ODOT
- Federal Highway Administration
- Federal Transit Agency
- Local Transit Agency
- Metropolitan Planning Organization
- Local Public Agency
- Civic and Community Associations
- General Public
- Environmental Justice Populations
- Resource Agencies
- Special Interest Groups

## 201.4 Public Involvement Plan

During Step 1, a documented public involvement plan (PIP) is developed. The project manager is responsible for developing and implementing the PIP, and usually assigns a separate staff member to this task. How to develop and implement a PIP is outlined in ODOT's *Public Involvement Guide*.

## 201.5 Stakeholder Goals and Measures of Project Success

During Step 1, the project manager, ODOT or sponsoring agency staff and consultants should work with stakeholders to help them understand the PDP; to define the transportation problem and its cause; and to reach an agreement on what they see as a successful solution or goals for solving the identified transportation problem. Participation and agreement among all stakeholders in quantifying the "measures of project success" is needed during Step 1 so it is available to apply during Step 3 as evaluation criterion.

There are a number of techniques that can be used to solicit ideas and to reach consensus on objective measures of success and evaluation criteria. Example techniques include focus groups, general meetings, survey research, and facilitated sessions. For additional approaches and detail, refer to ODOT's *Public Involvement Guide*.

This early understanding of stakeholder perspective lays the groundwork for future PDP steps. Discussions with stakeholders provide information to assist in determining what data should be collected and what analytical approaches are needed to quantitatively define and evaluate the problem. An example of a measure of project success may be the preference to avoid relocating families. This indicates the need to collect housing data in or near the study area for use in comparing conceptual alternatives in Step 3. For a more detailed explanation see ODOT's *Planning Process Manual*.

## 201.6 Refine the Planning Study Scope of Services

When agreement has been reached and additional information collected relative to the study area, PIP, transportation problem and measures of success, the original scope of services for the planning study should be reviewed, refined, and any changes to work or responsibilities clarified or assigned.

## 201.7 Cost Estimates and Milestone Dates

At the end of Step 1, the schedule in Ellis should be re-visited, updated and revised. While there is still no determination of conceptual alternatives or the project solutions, there should be enough additional information to update the magnitude of the construction, right-of-way acquisition and utility reimbursement cost estimates to provide a "place-holder" value into Ellis.

## 201.8 Products

- Study area boundaries identified
- Stakeholders identified and contacted
- Public Involvement Plan
- Stakeholder consensus on goals and measures of project success defined
- Scope of Services for Planning Activities refined
- Project cost estimates and milestone dates updated

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## 202 Step 2 - Conduct Research and Technical Studies

As stated in Step 1, it is necessary to begin some Step 2 activities and make the facts gained from them available to stakeholders during Step 1. Step 3 should NOT begin until Step 2 data collection and analysis are substantially completed.

### 202.1 Data Needs

The project team begins Step 2 by identifying data needs. In deciding what data is needed, and what should be collected, the project team should consider how the stakeholder's definition of the problem and what data is needed to confirm or quantify the problem from its perspective. The project team should think ahead and determine the type and level of analyses necessary to develop a purpose and need statement and to address evaluation criteria in Step 3. Typical collection and analyses include:

- Traffic modeling and diversion analysis
- Capacity analysis
- Crash analysis
- Geometric assessment
- Physical systems inventory and conditions analyses
- Social, Economic and Environmental (SEE) inventory analysis
- Utilities, right-of-way, geology, environmental and other design Red Flag issues
- Preliminary costs

For more information on data collection and analyses, see ODOT's *Planning Process Manual*.

### 202.2 Existing Data, Research, and Analysis

To avoid unnecessary study costs and save time, prior to collecting new data, existing data sources should be collected and reviewed. This may include prior studies, secondary sources, and previous reports. This review should include a thorough evaluation of existing aerial photography, geotechnical analysis, travel patterns, system performance, crash data, and transportation solutions that have been analyzed and proposed for the area in the past. This review should also identify key areas where available data is insufficient to define or analyze the problem. Only then should new data be collected. Some existing resources for use in technical analysis include:

- Existing ODOT and MPO planning studies
- Transportation and land use plans
- Population figures and projections
- Economic indicators
- Traffic counts and planning level traffic projections
- Origin and destination surveys
- Speed and delay studies
- Geographic Information Systems (GIS) analyses including databases from other state agencies such as ODNR, OEPA, geological and cultural resource maps.

### Objectives

- Identify data needs
- Review existing data and analyses and conduct needed additional research and analysis
- Prepare base maps
- Prepare existing and future conditions report
- Confirm study area and logical termini
- Develop Red Flag summary
- Prepare Draft Purpose and Need Statement

## 202.3 Base Maps

All Major Project planning studies require a study area base map. The base map or set of base maps should present existing transportation facilities, land use, general socio economic information, and Red Flag related conditions such as utilities, rail lines, environmental, and geological features. Maps should be developed to the scale and level of detail to allow for continual updating, refining and adding of additional detail during the planning, environmental, and early design steps in the PDP.

Base maps should be used to present traffic counts and patterns based on existing conditions and on modeling results. All mapping should also be to the level of detail to, at a minimum, be used during Step 4 to clearly and quickly identify the recommended design concepts, design scope, and project termini.

Depending on the necessary level of detail, base mapping can be generated in many different platforms including CADD, GIS or other graphic design programs. There are many data resources available for the generation of base maps. Some resources include:

- Topographically Integrated Geographic Encoded Referencing (TIGER) Files generated by the U.S. Census Bureau
- U.S. Geological Survey (USGS) Digital Line Graphs (DLG) and other mapping
- ODOT's Office of Technical Services and Office of Environmental Services, GIS Section
- MPO offices, county engineers, and county auditors

## 202.4 Existing and Future Conditions Analyses

Step 2 includes collecting, analyzing, and documenting a broad range of transportation conditions and projected changes to these conditions. This may include travel patterns, traffic counts, Level of Service, congestion or system capacity analysis, a safety study, geometrics analysis, and a physical condition analysis. Each analysis should include projections of these conditions. Analysis should be conducted to the level of detail to define the problem and identify potential solutions. Variables that can impact the level of analysis necessary include, but are not limited to:

- Size of community, demographics, and other socio-economic factors
- Distribution of population and major employers
- Growth trends and projections
- Season, time of day, day of week of analysis
- Physical condition of the transportation infrastructure
- Topography, roadway design factors
- Environmental justice populations
- Red Flags

ODOT and local government agencies have extensive traffic count data, accident data, truck factors, traffic growth factors, geometric, geotechnical, aerial and Red Flag type information available. If such data is unavailable, the following studies may be conducted during Step 2:

- Transportation systems analyses, such as geometric and design analysis
- Level of Service analysis, or accident analysis, to understand the cause of the identified problems
- Conceptual transportation alternatives such as Intelligent Transportation System
- Access Management and Transportation Demand Management

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An Existing and Future Conditions Report that documents the data collected and analysis conducted must be prepared for every Major Project. The report should detail the existing and future conditions within the study area, any Red Flag issues, and the results from all the analyses. It should include the base maps together with a detailed explanation of the study area including a justification for its selection. It should include a brief project history and a general overview of the transportation problems being addressed. For more detail regarding this report see the ODOT's *Planning Process Manual*. As identified in Appendix B, ODOT's Office of Urban and Corridor Planning should be given an opportunity to review and comment on the report prior to its publication and distribution

## 202.5 Study Area and Logical Termini

At this point in the PDP, adequate information and analysis should be completed to confirm or refine the study area limits and geographic limits for a potential solution or project area. The study area boundary should be delineated on the base map. The study area should continue to be larger than the potential project's logical termini. FHWA regulations provide specific guidance in determining whether a project has reasonable end points, also called logical termini. 23 CFR 771.111(f) states:

*"In order to ensure meaningful evaluation of alternatives and to avoid commitments to transportation improvements before they are fully evaluated, the action evaluated in each Environmental Impact Statement or finding of no significant impact (FONSI) shall:*

- *Connect logical termini and be of sufficient length to address environmental matters on a broad scope;*
- *Have independent utility or independent significance; that is, be usable and be a reasonable expenditure even if no additional transportation improvements in the area are made; and*
- *Not restrict consideration of alternatives for other reasonably foreseeable transportation improvements."*

For additional information on this topic, refer to FHWA's *The Development of Logical Project Termini*, March 30, 1993.

## 202.6 Red Flag Summary

Red Flags, including environmental, right of way, utility and engineering issues, are locations of concern within the study area. Red Flags do not necessarily identify locations that must be avoided, but rather identify locations that may entail additional study coordination, creative management or design approaches, or increased right-of-way or construction costs. Locations that must be avoided are considered and referred to as "fatal flaws." A "fatal flaw" could involve significant, negative economic, environmental or historical impact in an area. The project manager should ensure consultation with the appropriate specialists to determine the level of concern for each Red Flag item.

There are several ways to identify Red Flag locations. It is recommended that the first data source consulted be secondary sources. A site visit is the next level or source for Red Flag analysis conducted during planning. More in depth analysis, requiring additional work such as borings or "digs," are typically conducted during later steps of the PDP. Potential areas of concern include utility locations, existing structures, drainage problems, waterways, geotechnical issues, topography, and existing right-of-way and/or land use issues.

Appendix H contains a sample of the Red Flag Summary that can be used to identify potential Red Flags. It is intended as a guide to what items and issues should be considered and addressed in the required "Red Flag Summary Report." Red Flag Summary format is left to the discretion of the project manager. For Major Projects, "Red Flags" must be identified on one of the study area base maps. It is understood that not all information may be applicable to mapping.

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As identified in the major project matrix in Appendix B, ODOT offices of Urban and Corridor Planning, Geotechnical Engineering, and Environmental Services, must be given an opportunity to review and comment on the Red Flag Summary Report before it is finalized. Depending on the findings, other offices may need to review the report. See Appendix B for details.

## 202.7 Purpose and Need

The most important product from Step 2 is a draft Purpose and Need Statement. The project manager is responsible for producing this based on the technical studies, analyses, stakeholder discussions, logical termini determination, and the Existing and Future Conditions Report. During Step 2, the draft Purpose and Need is a stand-alone document. It should be detailed enough to qualitatively and quantitatively define the transportation problems and establish the need for the potential project. The final Purpose and Need statement will be refined throughout the PDP and become part of the final environmental document for the project.

The draft Purpose and Need Statement is the catalyst for identifying and analyzing

reasonable alternative solutions and strategies. It is the primary criteria used to evaluate alternatives and select the preferred alternative. The draft Purpose and Need Statement should be comprehensive, specific, and concise, so that decision-makers and the public can use it to compare project alternatives against associated impacts. A clear, well-defined statement is also an essential element for successful interagency coordination and communication during the environmental and permitting processes.

Ultimately, the draft Purpose and Need Statement:

- Defines the transportation problems and needs to the level that independent utility and independent significance can be established (that is, is a usable and reasonable expenditure even if no additional transportation improvements in the area are made);
- Establishes the logical termini and any intermediate control points to address environmental matters on a broad scope;
- Is adequate to use to evaluate, eliminate or advance planning level conceptual alternatives; and,
- Does not restrict consideration of alternatives for other reasonably foreseeable transportation improvements.

The project manager should work directly with staff from ODOT's Office of Urban and Corridor Planning who will coordinate with the Office of Environmental Services in developing the draft Purpose and Need Statement. Guidance is also available through the FHWA Technical Advisory available at [www.fhwa.dot.gov/environment/](http://www.fhwa.dot.gov/environment/).

Public review and comment on the draft is encouraged; however, the draft Purpose and Need Statement is a technical document and must meet Federal standards. It should be reviewed and revised by ODOT prior to public distribution. The final Purpose and Need Statement will be refined during Steps 5 through 8 and become a part of the NEPA document intended for Federal acceptance and approval.

### Secondary Source Resources for Environmental and Geotechnical Red Flag Information

- Ohio Historic Preservation Office of the Ohio Historical Society
- Ohio Environmental Protection Agency
- ODOT Office of Environmental Services (OES)
- ODOT Office of Geotechnical Engineering (OGE)
- U.S. Fish and Wildlife Service
- Ohio Department of Natural Resources
- Bureau of Underground Storage Tank Regulation
- Federal Emergency Management Agency
- Natural Resources Conservation Service of the U.S. Department of Agriculture
- U.S. Census
- MPOs

For a comprehensive list, see OES and OGE Manuals.

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The project manager is required to submit the draft Statement to the Office of Urban and Corridor Planning for review, comment and approval. The Office of Urban and Corridor Planning will submit it to FHWA for its concurrence.

## 202.8 Products

- Identified data needs
- Completed data research and analysis
- Base maps
- Existing and Future Conditions report
- Confirmed study area and logical termini
- Red Flag summary
- Draft Purpose and Need statement

## 203 Step 3 - Identify and Evaluate Conceptual Alternative Solutions

### 203.1 Conceptual Alternative Solutions

Planning studies provide the opportunity to identify, discuss, and evaluate all reasonable capital, policy, program, management and modal alternative solutions to a transportation problem. Typically, along with one or more build alternatives, planning studies include the identification and evaluation of modal alternatives, transportation management or operational alternatives, and the no-build alternative. The recommended alternative from a planning study is a conceptual alternative solution and its general project limits. The specific alignment alternative or roadway design alternative are developed in Steps 5 and later.

#### Objectives

- Identify conceptual alternative solutions
- Develop cost estimates for conceptual alternative solutions
- Quantitatively compare and evaluate conceptual alternatives
- Document analysis, alternatives elimination process, and reasoning

The no-build alternative establishes the base condition for the project. No-build does not mean no-improvement. The no-build alternative may include extensive maintenance or replacement in-kind of an existing facility. It is also possible that there be more than one base-line no-build alternative. For example, assume the problem of maintaining an existing bridge versus replacing the bridge in its existing configuration or capacity; if the Purpose and Need Statement identifies additional capacity is needed, then maintaining existing capacity through a new structure or rehabilitation may each constitute a no-build scenario.

Identification of conceptual solutions or alternatives should begin with specifying needs to be addressed as identified in the Purpose and Need Statement. Depending on the complexity of the problem, it may be necessary to identify a number of alternatives. The number and range of alternatives selected should be appropriate to the identified needs. It is important to continue working with stakeholders during this phase to seek and address their ideas and concerns.

The initial set of alternatives should be:

- Broad
- Relate to the Purpose and Need
- Include ideas from stakeholders, ODOT staff and study consultants
- Include modal options
- Include transportation demand, management and mobility options
- Define and include the no-build option

### 203.2 Cost Estimates

All planning studies must include a cost analysis for each reasonable alternative considered. This is needed both to compare the alternatives and to identify alternatives to be eliminated because they are cost prohibitive based on a realistic understanding of what funding may be available. A planning level cost analysis may range from simple comparisons of capital costs to detailed life cycle cost analyses. Capital costs are usually developed from a build cost comprised of estimating typical segments, atypical segments, system-wide elements, and other needs such as real estate costs. Cost estimates should be adjusted appropriately for inflation using a construction cost index. A consistent base year should be used in comparing dollar amounts between alternatives.

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In some cases a cost analysis may be limited to only the conceptual alternative solutions being advanced. However, in most cases a planning level cost analysis is needed for each alternative considered. For information on estimating and evaluating costs, see ODOT's *Planning Process Manual*.

## 203.3 Conceptual Alternative Solutions Evaluation

Establishing evaluation criteria and evaluating the alternatives is a multi-phased step that includes:

- Identifying evaluation criteria,
- Developing an evaluation methodology or approach,
- Applying the approach, and
- Presenting the comparison in an easy to understand format.

In identifying evaluation criteria it is strongly recommended that the criteria be defined in quantitative rather than in qualitative terms. This allows data to be generated through analytical techniques that can be duplicated and defended. While quantitative measures are preferable they may not always be practical. When criteria do not lend themselves to quantification, care should be taken to present results in a manner that allows for easy discernment between alternatives.

Evaluation criteria must also be directly tied to study transportation goals and objectives, including but not limited to the measures of success identified by the stakeholders in Step 1, and to the draft Purpose and Need Statement in Step 2. The text box suggests some commonly used evaluation criteria.

Numerous evaluation methodologies exist. They range from simple qualitative approaches to detailed mathematical approaches using data-intensive quantitative analysis. Where an adopted regional, state, or local transportation plan exists, evaluation criteria should be consistent with the goals or objectives of that plan; and if possible, the same measures should be used to make decisions. See *ODOT's Planning Process Manual* for further details on evaluation criteria and methodologies. Stakeholders should be involved in developing the evaluation framework and criteria.

<b>Evaluation Criteria</b>
<ul style="list-style-type: none"><li>• Mobility Improvements</li><li>• Operational Efficiency (Volume to Capacity Ratio or Level of Service changes)</li><li>• Safety Improvements (number of crashes)</li><li>• Access or Accessibility (changes in number)</li><li>• Environmental or Engineering Design Issues (Red Flags, fatal flaws, extent or number of impacts)</li><li>• Economic Development Impacts</li><li>• Land Use Impacts</li><li>• Residential or Business Displacements (number of each)</li></ul>

ODOT strongly encourages presenting the alternative comparisons in a matrix format. This format has been demonstrated to be easy to understand by most stakeholders. A matrix format includes presenting the alternatives on one axis and the evaluation criteria on the other axis. The cells either contain numerical or color-coded comparisons indicating relative differences for each criteria.

Documentation during the alternative identification activities identifies all the considered alternatives, describes the no-build alternative, explains why alternatives were eliminated from further consideration, presents estimated costs of the considered alternatives, and recommends the conceptual alternative solution(s) to be considered for further evaluation. The alternatives documentation should:

- Identify all alternatives considered
- Describe the no-build alternative
- Present very general estimated costs of alternatives considered
- Explain why alternatives were eliminated

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- Recommend the conceptual alternative solution or the narrowed list of conceptual alternative solutions to be considered for further evaluation

The length of the documentation will depend on the project and number of alternatives under consideration. For future evaluation, it is helpful to include sections titled “Alternatives Considered and Dismissed” and “Preliminary Alternatives Considered.”

As stated in Appendix B Matrices for Major Projects, ODOT Office of Urban and Corridor Planning and the Office of Environmental Services should be given, prior to publication and distribution, the opportunity to review and comment on the alternatives identification and evaluation process and documentation. One of the benefits to following the PDP is to improve the probability that alternatives considered and eliminated during the planning phase will not need to be revisited during later steps. The offices of Urban and Corridor Planning and Environmental Services can assist in developing the justification and documentation needed to accomplish this.

## 203.4 Products

- Conceptual alternative solutions identified
- Cost estimates generated for alternatives
- Evaluation matrix for alternatives
- Analysis, reasoning for eliminating or advancing alternatives
- Documentation of Step 3 activities, products, and recommendations

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## 204 Step 4 - Develop Strategic Plan or Planning Study Report

### 204.1 Reaching Concurrence

A Strategic Plan includes documentation presenting the recommended design concept and scope, together with who, how, when and with what funding the recommendations are to advance. A Planning Study Report includes all the information in a Strategic Plan plus documentation covering the project or study history, process, findings, reasoning, alternatives considered, public involvement and comments, conclusions, and recommendations from all activities throughout the planning process. The determination of which is to be written is a decision based on the legal requirements for advancing the project and the stakeholders desires and needs for Concurrence Point 1.

Every action and activity during this step must include discussions, interactions, and incremental agreements leading to consensus among and between the stakeholders. By the end of this step, it is critical to be able to document concurrence, approval and (in most cases) funding commitments needed to advance the project in the PDP.

Objectives
<ul style="list-style-type: none"><li>• Recommend design concept and scope</li><li>• Revise draft Purpose and Need Statement</li><li>• Determine NEPA requirements</li><li>• Recommend funding, timetable, and delivery strategy</li><li>• Document the decision making process and recommendations into a strategic plan or planning study report</li><li>• Reach consensus and concurrence on recommendations by stakeholders and, if appropriate, seek MPO Major Investment Study approval (Concurrence Point #1)</li><li>• Update cost estimates and milestone dates</li></ul>

### 204.2 Recommended Design Concept and Scope

Building on the alternatives evaluation documentation completed in Step 3, Step 4 documentation expands and clarifies the recommended solution for the transportation problem. If the recommendation is for a capital project or facility, documentation is specific in defining the recommended design concept and scope.

The **design concept** is a detailed definition or description of the conceptual transportation alternative or strategy that best meets the identified need. This would include a definition of mode(s), general physical design characteristics, optional parameters, and required intermodal linkages (where applicable).

The **design scope** is the general length, location and logical termini or service area of the proposed project.

The scope and nature of the problem and recommended project design concept and scope will determine the extent of the documentation and whether it should take the form of a strategic plan or a full planning study report.

### 204.3 Purpose and Need Revisions

The Draft Purpose and Need Statement created in Step 2 should be revised to reflect any additional data discovered while developing conceptual alternative solutions. A well defined, well established and well-justified Purpose and Need will be used throughout the remaining steps in the PDP to justify and continue to narrow feasible, prudent, and practical alternatives. The revised Purpose and Need Statement is not submitted at this time but becomes part of the Strategic Plan or Planning Study Report documentation. The Office of Environmental Services (OES) will provide guidance on finalizing the Purpose and Need for NEPA.

## 204.4 NEPA Requirements

From an ODOT PDP environmental perspective, Major Projects are those involving the potential for high or significant environmental impacts. Major Projects may require an Environmental Impact Statement (EIS) or Environmental Assessment (EA), but also can include Categorical Exclusion (CE) projects. The following text box defines the classes of action that prescribe the level of documentation required in the NEPA process for Federal action. This determination should be discussed with the ODOT Office of Environmental Services (OES) to provide for a smooth transition into future PDP steps. A Notice of Intent (NOI) should be filed as soon as it is known that an EIS will be prepared. If the document type is undetermined between an EA or EIS, OES files a NOI that states that an EA or EIS will be prepared. There is no need to file if an EA is done, as NOI is not required nor applicable. For more detail reference ODOT's *Environmental Process Manual*.

### EIS, CE, and EA

**Class I: An Environmental Impact Statement (EIS)** is a detailed report that provides full and fair discussion on significant environmental impacts and informs decision-makers and the public of the reasonable alternatives that would avoid or minimize adverse impacts or enhance the quality of the human environment.

**Class II: Categorical Exclusion (CE)** is a classification given to federal actions that do not have significant effect on the environment either individually or cumulatively. Once a CE is approved for a project, NEPA requirements have been satisfied. ODOT and FHWA have agreed to four levels of review and approval, and the appropriate level of CE is based on the type of action and the conditions of the project. There are four levels of CEs, and projects that are exempt from the CE process are documented by an exempt CE.

**Class III: An Environmental Assessment (EA)** is a document prepared for Federal actions that are not eligible for a CE but do not appear to be of sufficient magnitude to require an EIS. An EA provides the analysis and documentation to determine if an EIS or a Finding of No Significant Impact should be prepared.

## 204.5 Recommended Funding, Timetable, and Delivery Strategy

Transportation funding is limited and typically only available with restrictions on amount, time frame available, use, and approval criteria. Complicating this is the fact that ODOT, TRAC, MPOs, and one or more local governments sometimes jointly fund Major Projects. Often Major Projects must not only be reviewed and accepted by the sponsoring agency or agencies but also a variety of other agencies. Before funding, timing or project delivery strategies are recommended in the final planning study report or strategic plan, these agencies should be consulted to determine:

- What funds are realistically available**
- What timeframe restrictions apply**
- What approval process is required**
- What other restrictions apply**

Each agency should be consulted individually and joint discussions should take place. These activities are the responsibility of the project manager.

To the greatest extent possible, the funding strategy should be agreed to or adopted prior to documenting and writing the strategic plan. The funding, timing and project delivery strategy should detail what

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agencies are participating in funding; in what amounts; for what phases or facilities; and when monies will be available. Documenting funding requires developing a project delivery strategy that includes identifying sub-projects, project timing and phasing, agreements on which agency will pay for what part of the remaining engineering, environmental, design, construction and possibly even long term maintenance. Agreements should also be reached and documented detailing what agency is responsible for managing the remaining steps in the project.

## 204.6 Document the Decision Making Process and Recommendations

The Planning Study Report, produced during this step, is intended to provide the formal record of the decision-making process and the rationale for the decisions and recommendations made throughout the planning process. The Planning Studies Report documents how and why decisions were made, the public involvement process, and the process and rationale justifying the narrowing of alternatives. It presents a strategic plan for advancing the project and lays the groundwork for what will be used and built on during NEPA and remaining PDP steps.

However, for some projects it may be adequate to only produce the Strategic Plan Documentation portion of a full Planning Study Report. A Strategic Plan is a subpart of a full Planning Study Report. A Strategic Plan includes details the design concept and scope recommendations together with: who, how, when and with what funding the recommendations are to be advance. The determination on which report format is to be produced should be made as part of the concurrence process taking place during this step and include the needs of both the project stakeholders involved during these first four steps and the agencies and offices responsible for accepting the recommendations and advancing the project through the remaining steps in the PDP.

The Planning Study Report and the Strategic Plan are the planning process's "hand-off" document. They must contain adequate detail to move the recommended design concept and scope ahead by the:

- MPO - provide adequate information for it to approve the MIS/project recommendation and include it in its Long Range Plan and TIP.
- ODOT Environmental team and NEPA agencies - provide adequate information about the purpose and need and justifications for the alternatives that were considered and eliminated to receive their approval to proceed with the recommended design concept and scope.
- ODOT Central Office - provide adequate information for funding and TRAC decision making
- Engineering Design Staff - provide it with an understanding of the design concept and scope, recommended location or project termini, information on Red Flags and other concerns or constraints to allow it to proceed with design.

As identified in the matrices in Appendix B, each of these groups should be given the opportunity to review, comment, and approve the draft to verify that it meets their needs. In addition, concerns by these groups should be addressed before the draft is distributed to the scoping committee or the public.

## 204.7 Planning Study Report

Simultaneous to agreeing on the design concept and scope, the funding, timing, and delivery strategy, the Planning Study Report should be written or finalized as a compilation of the documentation produced from the previous PDP steps. The Planning Study Report documents the planning process activities including the transportation technical analyses, stakeholder involvement, existing and future conditions report, revised draft purpose and need statement, alternatives evaluation and elimination justification, funding, phasing, and project delivery strategy. It incorporates and summarizes all decisions and agreements that took place during the planning process. It defines the actions recommended to advance and implement the planning design concept and scope recommendation.

Often the planning recommendation includes dividing the Major Project into separate, smaller projects with independent utility either for constructions or funding or both. This separation or subdivision of project parts has implications for all future steps in the PDP. This detail should be included as part of the Strategic Plan component in the Planning Study Report.

The Planning Study Report and the Strategic Plan may also include secondary recommendations. These secondary recommendations arise because a single strategy or project fails to completely address a transportation problem or need. Examples of secondary recommendations include park-and-ride and transit facilities, Intelligent Transportation System applications, traffic signals coordination projects, and bicycle and pedestrian amenities.

## 204.8 Strategic Plan

The Strategic Plan component to the Planning Study Report, should identify the following:

- Specific policies, programs, and projects that are to advance or combinations of policies, programs, and projects.
- Locations where policies, programs, and projects should be implemented.
- Financial requirements (including cost/benefit issues, the likelihood of implementation, and available resources).
- Priorities for these policies, programs, and projects together with timing or phasing for implementation.
- Project sponsors roles, responsibilities and funding commitments.
- Legal, financial, and administrative responsibilities for advancing the recommendations.

<b>Planning Study Report</b>
<ul style="list-style-type: none"><li>• Executive Summary</li><li>• Study Scope and History</li><li>• Study Organizational Structure</li><li>• Public Involvement Process</li><li>• Study Area</li><li>• Existing and Future Conditions - Description of System</li><li>• Purpose and Need</li><li>• Red Flag Summary</li><li>• Alternatives Analysis</li><li>• Recommended Design Concept and Scope</li><li>• Secondary Recommendations</li><li>• Strategic Plan<ul style="list-style-type: none"><li>○ Prioritized Recommendations</li><li>○ Funding</li><li>○ Phasing</li><li>○ Project Delivery Strategy</li></ul></li><li>• Appendices (Technical Data, Correspondence)</li></ul>

**If the stakeholders or the agencies from whom concurrence is required agree that a stand alone Strategic Plan is the only formal document needed for them to reach concurrence and advance the project, the following outline should be used as a general guide.**

# 200 Major – Step 4

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## Stand-alone Strategic Plan Outline

### Executive summary

#### Introduction

- Overview - What is in this strategy document?
- Brief project history (Steps 1-4)
- Location of additional documentation of the decision making process, (i.e. topics that would be included in a Planning Study Report), such as:
  - Full set of public involvement comments; public involvement plan.
  - All the details on existing and future conditions.
  - Red Flag summary report.
  - Technical appendices.
  - Other items.
- Summary Draft Purpose and Need Statement
- Summary of alternatives considered and the decision-making process followed to justify elimination of alternatives from further consideration

#### Recommendations

- Define and justify Study Area and Project Area
- Design concept and scope / logical termini and its relationship to the:
  - Purpose and Need Statement
  - Public concerns and goals
- Subdivided Projects, specific policies, and any special programs that are to be advanced
- Reasoning and how each has independent utility
- General location, logical termini, and reasoning for each
- Cost estimates for each
- Prioritization, phasing, and funding for projects, policies, programs
- Timing and phasing for each
- Funding commitments or how to pay for each
- Any legal and administrative responsibilities, MOUs or related recommendations

#### Actions and Next Steps- who/how will the project be advanced

- Concurrence status and actions needed to complete
- Phasing, funding, who will do what
- In general - steps 5-8, NEPA requirements, what involved and who is responsible for advancing and how funded; what is expected timing; how to address concerns raised in PI; how to document efforts to address
- In general - Steps 9-14, who is responsible for advancing; special notes
- Public involvement - what's next and how will the public be informed
- Overview of the project delivery strategy - Gantt charts

#### Summary and Conclusions

## 204.9 MPO Concurrence and MIS Approval

Ohio has 17 federally designated MPOs. Their boundaries are identified on the ODOT Urban and Corridor Planning web page [www.dot.state.oh.us/planning](http://www.dot.state.oh.us/planning). Major transportation projects and investments within a MPO boundary must receive MPO approval. MPO approval requires that a proposed project be:

- In conformance with the Clean Air Act Amendments (CAAA) requirements and the State Implementation Plan (SIP)
- Listed on the MPO long-range Transportation Plan (LTP)
- Included in its financially constrained Transportation Improvement Program (TIP)

MPO technical staff should be contacted and asked to run the proposed project through its air quality model to verify air quality conformity. MPO policy staff should also be contacted to schedule presentations and discussions with the MPO Technical Advisory Committee (TAC) and Board to receive their approval of the recommendations and agreement to include the recommendations in the LRP and TIP. Given MPO staff and board members should have been involved, as stakeholders with the process from Step 1, their approval and this concurrence should not be an issue. It is strongly recommended that the project manager work with the MPO staff and board from the beginning of Step 1 to avoid any delays, need to revise the study, or as a worse case, having the MPO refuse to accept the study and its recommendations.

If an Ohio MPO is the sponsor of the major planning study, it is usually called a “Major Investment Study,” or MIS. A MIS is one type of planning study conducted in an urban area for projects that require a major financial investment or have regional impacts. By following the first four steps of ODOT’s Major Project PDP, as explained here and in ODOT’s *Planning Process Manual*, the MIS requirements should be met. The final strategic plan or planning study report prepared during Step 4 ODOT’s PDP could be submitted to the MPO Board for its review and comment the same way that a MIS is submitted.

While it is the discretion of the MPO board to accept this documentation in lieu of a stand-alone MIS document, if it chooses not to, very little work should be needed to revise, reformat, rewrite, and resubmit it as a MIS. Assistance in revising a document into a MIS is available from ODOT’s Office of Urban and Corridor Planning. On the other hand, it is important to note that completing a traditional, stand-alone MIS does NOT satisfy all the requirements of the first four steps of ODOT’s PDP and cannot be substituted for following the PDP. Please see ODOT’s *Planning Process Manual* for details.

## 204.10 Preliminary Legislation

Seeking Preliminary Legislation is not a substitute for or part of Concurrence Point #1. In some rare cases, depending on the anticipated timing to begin construction for the project it may be appropriate to begin developing preliminary legislation. For projects occurring within the jurisdictions of local public agencies (LPA), whether or not the agency is participating financially, preliminary legislation must be obtained from the affected LPA prior to Step 7. This legislation includes broad language to the effect that the local agency grants permission for ODOT to perform work on the specific project within its jurisdictional boundaries. The preliminary legislation addresses the need to use the county, city, or township right-of-way, necessary alterations to the local highway system, and use of the local roadway network as a detour route. The preliminary legislation also details each party’s authorization, duties, and financial responsibility for the project. This legislation is initiated by ODOT and submitted to the appropriate local jurisdiction for enactment in the form of a resolution by its governing body (e.g: county commissioners, city or village council, township trustees).

## 204.11 Concurrence Point #1 (Final Strategic Plan)

It is the project manager’s responsibility to contact and bring together the agencies and organizations from which concurrence is needed. It is at this concurrence point when the ODOT Office of Environmental Services should begin to take a more active role in contacting environmental stakeholders. One of the many purposes of this concurrence point is that environmental stakeholders accept that adequate analysis has been conducted to eliminate a number of conceptual alternatives and approve the conclusions of the Planning Study Report or the Strategic Plan. This approval and advancement of the conceptual recommendations is often based on documentation of the actions, activities, and decisions from the first four steps. The environmental stakeholders should therefore be consulted as to documentation needed to meet their needs.

It is the project manager’s responsibility to receive and formally document concurrence on the recommended design concept and scope and strategic plan and any agreement on funding and other participation in future activities. This documentation should include the names of the agencies (MPO, LPAs, State and Federal resource agencies) and stakeholders that concur with the recommendations,

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how and when (through a vote or similar showing of agreement as recorded in meeting minutes or a dated letter of endorsement or financial commitment) they acknowledged their concurrence. This documentation should be attached to the final Planning Study Report or Strategic Plan. This documentation must be included in the project file that will continue as the formal project record as it advances in the PDP. No project should advance without this concurrence.

If discussions, interactions, and incremental agreements among and between the stakeholders took place throughout the process, including the activities in this step, official concurrence from all stakeholders on the recommendations and strategic plan should emerge automatically. If concurrence cannot be reached, there may be a need to return and redo or further explain the technical analysis and decision-making reasoning.

Concurrence, like consensus, does not mean or require a unanimous vote of all stakeholders. Concurrence means there is agreement that a fact-based, legally sound, collaborative process was followed, all stakeholders had their positions heard, and the recommendations being advanced are based on sound technical analysis, public involvement, and rational decision-making. Concurrence includes agreement that the recommendation or recommendations solve the transportation problem and need defined in the draft purpose and need statement and are an efficient use of resources available within the timeframe needed.

## 204.12 Cost Estimates and Milestone Dates

The project manager will update Ellis to reflect any changes to the schedule, construction, right-of-way acquisition, and utility reimbursement cost estimates.

It is the responsibility of the project managers to contact the respective ODOT District or MPO STIP/TIP coordinator to determine if the project needs to be added to the MPO Transportation Plan or TIP/STIP. It is the responsibility of the project manager to take the necessary action to accomplish this.

## 204.13 Products

- Design concept and scope recommendation agreed to and documented
- Funding, phasing, timetable, and project delivery strategy agreed to and documented
- Purpose and Need statement revised
- Decision-making process documented
- Compilation of public comments
- Determination of NEPA requirements and OES hand-off
- MPO concurrence if in an urban area
- Preliminary legislation
- Stakeholder involvement and concurrence documented
- Final Strategic Plan or Planning Study Report Document produced
- Completion of Concurrence Point #1
- Ellis cost estimates and milestone dates revised
- MPO plan, STIP / TIP status verified and revised

## 205 Step 5 - Develop Conceptual Alternatives

### 205.1 Public Involvement Issues

During Concurrence Point #1, at the end of Step 4, the Strategic Plan was presented to stakeholders, agencies, and the public. The public provides valuable insight into local concerns, and the public comment period following Concurrence Point #1 provides documentation of these local concerns. Public comments often provide suggestions for avoiding environmental and design Red Flags and suggestions for meeting the transportation needs of the community. In Step 5, these public comments are incorporated into the further refinement and analysis of the transportation improvements and are included in the development of the conceptual alternatives.

#### Objectives

- Address public involvement issues
- Select corridors for further study
- Develop scope of services for Step 5 and Step 6
- Perform environmental field studies
- Submit Conceptual Alternatives Study
- Involve stakeholders at Concurrence Point #2 (Conceptual Alternatives Study)
- Update cost estimates

### 205.2 Scope of Services

At the beginning of Step 5, a scope of services is developed for the preliminary engineering and environmental requirements. This scope usually covers the requirements for project development through Step 6.

### 205.3 Corridors for Further Study

Step 5 starts with refining and analyzing the transportation improvements selected for further study in Step 4. During Step 5, the corridor and alignment development occurs. The approach to developing corridors and alignments is dependent on the size of the study area. For example, new build projects typically have study areas of several square miles that require development of both corridors and alignments within those corridors. On the other hand, major redesign or improvement projects with a limited study area of a mile or two in width typically do not require development of corridors. Rather, these projects generally require only development of alignments.

As suggested above, corridors are limited study areas in which alignments are developed. The project team uses the study area mapping and planning resources to design and locate preliminary corridors between the project termini. In developing the corridors, the goal is to avoid and/or minimize impacts to as many design and environmental Red Flags as possible. The corridors should be a constant width, typically 1,000 to 2,000 feet [300 to 600 meters].

Once the corridors are developed, a comparative analysis of the preliminary corridors is conducted. This comparative analysis identifies the advantages and disadvantages of each corridor and associated environmental impacts. In addition, the comparative analysis discusses public comment information and how that information was incorporated into the design of the preliminary corridors. Ultimately, a comparative matrix is developed to provide a quantitative basis for evaluating the corridors.

In summary, corridors are selected for further study based on agency comments, public input, and the summary of known resources within each conceptual alternative. Corridors may be eliminated for a variety of reasons; such as, they do not address the stated purpose and need, they have greater potential for environmental impacts, they are objects of substantial public or agency controversy, or they have design limitations. The corridors selected for further study are documented in the Conceptual Alternatives Study and presented to stakeholders during Concurrence Point 2.

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## 205.4 Environmental Field Studies

During Step 5, environmental field studies are conducted within the corridors selected for further study, known as the conceptual alternatives. The environmental field studies are used to quantify and qualify the characteristics of the natural and man-made resources within the conceptual alternatives. Reports generated from environmental field studies will determine the level of field investigation warranted for the feasible alternatives, which are developed in Step 6. In Step 5, field studies are conducted concurrently for the following resources:

- Ecological (water resources, plant and animal species, terrestrial habitat, farmland)
- Cultural (history/architecture)
- Environmental Site Assessment (hazardous waste and landfills)
- Social and Economic Resources (environmental justice, Title 6 of the Civil Rights Act, community issues)
- Section 4(f) of 49 USC 303 and 23 USC 138 properties (parks, recreation areas, waterfowl refuges, and historic sites)
- Noise

The amount of data collection and coordination will vary with the impacts associated with the project. OES has established mechanisms for streamlining some portions of the environmental process in the form of Memorandums of Agreements (MOAs), Letters of Agreements (LOAs), and Programmatic Agreements (PAs). Refer to resource specific manuals to determine the level of data collection and report required. The streamlined processes should be evaluated for applicability during Step 5.

Prior to conducting the field studies, the project manager ensures letters are mailed to property owners and tenants notifying them of ODOT's intent to enter upon their property. This notification applies to all entry onto private property. The project team uses property tax maps to develop the mailing list of property owners in the study area. The project manager must ensure delivery of this notice of entry to the property owners and tenants no less than 48 hours or no more than 30 days prior to entering the property (see *Ohio Revised Code 163.03*).

Step 5 also includes a Relocation Assistance Program (RAP) Conceptual Survey to determine the residential and business relocations within the conceptual alternatives. Without disturbing the occupants, the following information is obtained by visual inspection of the area, from available project mapping, and from secondary resources:

- An estimate of the number of households to be displaced, including family characteristics (e.g. minorities, low-income, elderly, etc.)
- An estimate of the number of businesses to be displaced
- Divisive or disruptive effect on the community, such as separation of residences from community facilities
- A description of replacement housing in the area
- Results of consultation with local officials, agencies, and community groups
- An estimate of the time required to clear the project for construction

For more details regarding the contents and submission requirements for the RAP Conceptual Survey, see ODOT's Office of Real Estate's *Relocation Manual*.

Upon conclusion of the environmental field studies, the results (as documented in the individual survey reports) are added to the project mapping that was initiated in Step 2 as part of the Red Flag identification. The updated project mapping should include the Red Flag information, the results from the field surveys, and the locations of homes and businesses.

## 205.5 Conceptual Alternatives Study

The Conceptual Alternatives Study is a combined design and environmental document (submitted in Step 5), which refines and analyzes the transportation improvements selected for further study in Step 4. The document is based on the information provided in the Project Strategic Plan and includes the information developed throughout Step 5. General topics covered in the Conceptual Alternatives Study include the following:

- History of the project
- Purpose and need
- Public involvement and agency coordination activities
- Modal alternatives considered, including the no-build alternative
- Corridors and horizontal roadways developed and selected for further study
- Results of environmental field studies
- Utilities coordination activities

The following text box highlights the detailed requirements for the Conceptual Alternatives Study. ODOT's *Location and Design Manual*, Volume 3, Section 1400 provides a complete list of design submission requirements. Details on environmental submission requirements are listed in ODOT's *Environmental Process Manual*.

## 205.6 Concurrence Point #2 (Conceptual Alternatives Study)

### Conceptual Alternatives Study Requirements

- Design and legal speeds
- Functional classification
- Projected traffic volumes for opening year and design year
- Conceptual typical sections identifying the number of lanes, lane width, type of curb, sidewalk, buffer, graded shoulder width, and type of grading
- Mapping with design and environmental Red Flag areas overlain with proposed corridors
- Curve data for all proposed roadways, except interchanges
- Documentation of preliminary geotechnical analysis of existing data to determine extent of geologic hazards and hydrogeologic concerns
- Post construction storm water best management practices threshold determination
- Documentation of preliminary contact with involved utilities
- Results of environmental field studies
- Matrix or other summary of the advantages and disadvantages from a design and environmental perspective of each alternative; including cost estimates for construction, utility reimbursement and right-of-way acquisition
- Discussion of the recommendation of alternatives/preferred corridor for further

Concurrence Point #2 occurs at the end of Step 5 after completion of the Conceptual Alternatives Study. As part of this concurrence point, the Conceptual Alternatives Study is sent to federal and state agencies for review and concurrence. (See Appendix C for specific review requirements). In addition to circulating the Conceptual Alternatives Study to resource agencies, the results are presented to the stakeholders and the public. During Concurrence Point #2, the project manager should work with necessary personnel to develop any handouts and displays for any public meetings. The project manager should also work with the District Public Information Officer to advertise the date, time, and location of the meeting. Comments received from the agency review of the Conceptual Alternative Study and from the

# 200 Major – Step 5

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stakeholder and public review are addressed at the beginning of Step 6 as part of the further development of the alternatives.

## 205.7 Cost Estimates and Milestone Dates

Before proceeding to Step 6, the project manager should update the schedule and construction, right-of-way acquisition, and utility reimbursement cost estimates in Ellis.

## 205.8 Products

- Public Involvement issues addressed and documented
- Selected corridors for further study
- Scope of Services for Steps 5 & 6
- Completed environmental field studies
- Approved Conceptual Alternatives Study
- Completion of Concurrence Point #2 (Conceptual Alternatives Study)
- Updated cost estimates

## 206 Step 6 - Refine Feasible Alternatives

### 206.1 Feasible Alternatives and Preliminary Construction Limits

Step 5 concludes with the presentation of the Conceptual Alternatives Study to the stakeholders, agencies, and public. The agency concurrence on the Conceptual Alternatives Study and the public comments allow for recommendation of a limited number (typically 2 or 3) of feasible alternatives that will be further developed in Step 6.

The further development of feasible alternatives takes into account public and agency comments, minimization and avoidance of environmental resources, and established design criteria.

The further development of feasible alternatives also includes additional design and environmental activities. For example, refined environmental field studies are conducted within the feasible alternatives in order to provide more detailed information. In addition, the horizontal alignments from Step 5 are developed to a higher level of design detail to include preliminary construction limits.

In summary, the activities within Step 6 allow for an analysis of the feasible alternatives to decide which alternatives avoid or minimize impacts within the corridors while meeting the project's purpose and need to the highest degree possible. The additional engineering information and data gathered from the refined field studies in Step 6, become the basis for the Assessment of Feasible Alternatives document and selection of a preferred alternative.

#### Objectives

- Develop feasible alternatives and preliminary construction limits
- Perform refined environmental field studies
- Prepare assessment of feasible alternatives
- Conduct first constructability review
- Conduct first Value Engineering Study
- Update cost estimates
- Involve stakeholders at Concurrence Point #3 (Assessment of feasible alternatives)

### 206.2 Refined Environmental Field Studies

In many cases, environmental impacts cannot be avoided when selecting feasible alternatives. In these cases, additional studies are necessary to provide detailed information about the resources. The additional studies are conducted as necessary based on the results of the field studies conducted for the conceptual alternatives in Step 5. If the results of these refined environmental field studies in Step 6 conclude that additional studies are warranted, those additional studies are conducted within the apparent preferred alternative during Step 7. The adjacent text box provides a listing of those refined environmental field studies that may be necessary during Step 6. For more information on the field studies, refer to ODOT's individual technical and environmental manuals.

#### Environmental Field Studies Conducted within the Feasible Alternatives

- Preliminary Noise Analysis
- Phase II History/Architecture Survey
- Section 4(f) Evaluation
- Phase I Environmental Site Assessments
- Farmland studies
- Refined ecological studies

# 200 Major – Step 6

## 206.3 Assessment of Feasible Alternatives

The Assessment of Feasible Alternatives combines the environmental data, collected in Step 6 and previous steps, with the design information further developed for the feasible alternatives. The data are used to compare alternatives and evaluate each alternative for its potential environmental consequences and design issues. The Assessment of Feasible Alternatives is thus a combined design and environmental document. The ultimate purpose of the Assessment of Feasible Alternatives is to provide the basis for recommending a preferred alternative that can be presented to stakeholders, agencies, and the public by the end of Step 7.

The environmental component of the Assessment of Feasible Alternatives discusses impacts to areas such as farmlands, wetlands, streams, threatened and endangered species, cultural resources, community impacts, and Section 4(f) resources. Reference ODOT's *Environmental Process Manual* for more detail on the environmental component of the Assessment of Feasible Alternatives.

The adjacent text box primarily highlights the design components of the Assessment of Feasible Alternatives. ODOT's *Location and Design Manual*, Volume 3, Section 1400 provides a detailed list of design submission requirements.

## 206.4 First Value Engineering Study / First Constructability Review

A Value Engineering Study is typically performed after completion of the Assessment of Feasible Alternatives. Value Engineering is a systematic analysis by a multi-discipline team which identifies the functions of a project, establishes the worth of that function, generates alternatives through the use of creative thinking, and identifies ways to provide the needed functions at the lowest overall cost. Value Engineering studies must be performed on all projects having a total cost (including design, right-of-way, and construction) in excess of \$25 million. These studies may also be performed on projects involving complex items or whose costs have increased substantially since initial estimates were developed.

A Constructability Review will be conducted as part of the Value Engineering Study. This review is intended to cover the following areas: right-of-way, environmental, geotechnical, utilities, site plan and profile, drainage, structures, maintenance of traffic, construction completion date, construction project phasing and access, and overall bid-ability and build-ability of the project.

- Assessment of Feasible Alternatives Requirements**
- Certified traffic
  - Design and legal speeds
  - Functional classifications
  - Conceptual typical sections
  - Mapping with Red Flags
  - Identified potential mitigation areas for stream and wetland impacts
  - Curve data
  - Preliminary profiles
  - Conceptual cross sections
  - Potential design exceptions
  - Capacity analysis
  - Interchange justification issues
  - Soil Boring
  - Preliminary geotechnical drilling
  - Evaluation of geologic and hydrogeologic concerns
  - Drainage criteria forms
  - Determine type(s) of post construction storm water best management practices
  - Maintenance of Traffic
  - Highway lighting considerations
  - Railroad correspondence
  - Aesthetic options
  - Retaining wall justification
  - Value Engineering exhibits
  - Environmental field studies (refined)
  - Alternatives evaluation/matrix
  - Discussion of preferred alternative
  - Major utility relocations

## **206.5 Concurrence Point #3 (Assessment of Feasible Alternatives)**

Concurrence Point #3 occurs at the end of Step 6 after completion of the Assessment of Feasible Alternatives. The Assessment of Feasible Alternatives is the basis for recommending a preferred alternative for further study in Step 6, thus the agency review and concurrence of this document is a critical part of Step 6. The feasible alternatives and the recommended preferred alternative (if identified) for further study are typically presented to the stakeholders and public at a public meeting. Comments received from the public meeting and the agency review of the Assessment of Feasible Alternatives assist ODOT in the recommendation of a preferred alternative for further development in Step 7.

## **206.6 Cost Estimates and Milestone Dates**

Prior to proceeding with Step 7, the project manager should update the construction, utility reimbursement, and right-of-way acquisition costs in Ellis based on the activities in Step 6.

## **206.7 Products**

- Feasible alternatives and preliminary construction limits
- First constructability review
- Refined environmental data
- Approved assessment of feasible alternatives
- First Value Engineering Study
- Concurrence Point #3 (Assessment of Feasible Alternatives)
- Updated cost estimates

# 200 Major – Step 7

## 207 Step 7 - Develop Preferred Alternative

### 207.1 Preferred Alternative

Step 6 concluded with the recommendation of a preferred alternative after a review of the public and agency comments received from Concurrence Point 3. Step 7 continues with analysis and development of the preferred alternative. The feasible alternatives may be revised in response to comments and subsequently the alternatives evaluation matrix from Step 6 may be updated. Based on agency reviews, public comments, and an evaluation of environmental impacts throughout Step 7, a final preferred alternative is recommended by the end of Step 7. The District and OES in conjunction with FHWA determine the final preferred alternative. All steps of the decision-making rationale must be documented.

### 207.2 Scope of Services

The scope of services developed at the beginning of Step 5 usually covers engineering requirements for project development through Preferred Alternative Verification at the end of Step 7.

### 207.3 Refine Design Plans for the Preferred Alternative

During Step 7, preliminary construction limits developed in Step 6 are refined within the preferred alternative. Assumptions are further investigated. Any additional design decisions that could potentially increase the construction limits or otherwise require that the environmental document be revised should be investigated. All actions directly related to the project must be included in the environmental document. For example, the new location of a gas line that is moved “off-project” must be considered when evaluating the impacts of an alternative for the environmental document. In addition, at times, certain projects will necessitate the identifying and selecting locations for contractor staging, borrow and waste areas. These projects are usually ones that have little available ROW or have highly sensitive resources present. See ODOT’s *Location and Design Manual*, Volume 3, Section 1400 for a detailed listing of Step 7 design activities.

### 207.4 Environmental Field Studies and Refined Impacts

During Step 7, additional environmental field studies are conducted within the construction limits of the preferred alternative in order to refine the level of impacts associated with the alignment. Field studies include but are not limited to Phase I and II archaeological surveys, determinations of effects for historic resources, Phase II ESA Work Plans and Phase II ESAs, wetland delineations, final stream assessments. If an EIS is required, a Biological Assessment for federally listed threatened and endangered species may be required. The Biological Assessment builds on the ecological

#### Objectives

- Recommend preferred alternative
- Refine design plans for preferred alternative
- Perform environmental field study and refine impacts
- Prepare waterway permit determination
- Prepare and submit Categorical Exclusion (CE), Environmental Assessment (EA), or Draft Environmental Impact Statement (EIS)
- Submit preferred alternative verification
- Involve stakeholders at Concurrence Point #4 (Preferred Alternative)
- Develop scope of services for detailed design development
- Update cost estimates and milestone dates

#### Environmental Field Studies Conducted within the Preferred Alternative

- Phase I and II archaeology
- Determination of effects for historic properties
- Phase II ESA Work Plan and Phase II ESA
- Wetland delineations
- Final stream assessments
- Biological Assessment for federally listed species
- Final noise analysis

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field studies and reports prepared in Step 6 and further documents potential effects, resulting from the preferred alternative, to threatened and endangered species.

Phase I and (if necessary) Phase II archaeological field surveys and report preparation are conducted within the construction limits of the preferred alternative. If the Phase II report indicates that archaeological site(s) eligible for the National Register of Historic Places (NRHP) will be affected by the proposed project, Documentation for Consultation and a Memorandum of Agreement are prepared to address mitigation. For more information on archaeological field studies and reports, see ODOT's *Cultural Resources Manual*.

Wetland delineations and final stream assessments are completed for those aquatic resources that occur within the limits of (and in proximity to) the preferred alternative. Wetland boundaries are delineated and stream functions and values are assessed in accordance with ODOT OES *Ecological Manuals*. An addendum report is added to the Ecological Survey Report to address wetland and stream impacts.

## 207.5 Waterway Permit Determinations

The following list provides brief descriptions of waterway activities that are regulated by various agencies:

- The discharge of both temporary and permanent dredge or fill materials into waters of the United States, regardless of amount or length, is regulated by the U.S. Army Corps of Engineers (USACE) and the Ohio Environmental Protection Agency (OEPA) through the waterway permitting process.
- The USACE regulates impacts to navigable waters under Section 10 of the Rivers and Harbors Act of 1899 and the discharge of dredge and fill materials into waters of the United States under Section 404 of the Clean Water Act (CWA).
- The OEPA, under authority of Section 401 of the CWA, regulates the state water quality through the 401 Water Quality Certification process and impacts to isolated wetlands under Section 6111 of the Ohio Revised Code (ORC).
- The U.S. Coast Guard (USCG) regulates impacts to, or crossing of, navigable rivers in Ohio under Section 9 of the Rivers and Harbors Act of 1899. A completed 401 Water Quality Certification is required by the USCG for a Section 9 permit.

During Step 7, projects are evaluated by the ODOT District to determine if there are potential impacts to aquatic resources subject to waterway permits. If aquatic resources are not impacted, no waterway permits are required. If however, aquatic resources subject to waterway permits are impacted, a draft of the pertinent sections of the Preferred Alternative Verification is forwarded to the OES Waterway Permit Unit for permit determination. OES returns the permit determination to the District. This determination will include the type and level of waterway permits required. This permit determination is included as part of the final submission of the Preferred Alternative Verification.

Typical permit authorization options include:

- No waterway permits are required.
- Authorization under the 404 Nationwide Permit Program (as designated by OES for projects with minimal impacts or by the USACE for projects which surpass specified criteria).
- Authorization under individual 404 Permit and 401 Water Quality Certification.
- Projects over commercially navigable waters require a Section 9 Permit from the USCG in addition to a 404 Permit and 401 Water Quality Certification.
- Projects impacting isolated wetlands require an OEPA Isolated Wetlands Permit in addition to any option above.

# 200 Major – Step 7

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Waterway permit processing and coordination for projects which can be authorized under the 404 Nationwide Program (or equivalent waterway permit) ends at Step 7 with OES submitting the Special Provision Package (SPP) to the District. The SPP includes the waterway permit(s) and all relevant conditions and is attached by the District to the final construction plans.

Should a 404 Pre-Construction Notification, 404 Individual Permit, 401 Water Quality Certification or Isolated Wetlands Permit be required, draft permit applications are prepared and submitted to the OES Waterway Permit Unit in Step 7 for review and coordination with the agencies in Step 8.

Refer to the ODOT OES *Waterway Permit Manual* for a complete description of waterway permit issues.

## **207.6 Categorical Exclusion, Environmental Assessment, or Draft Environmental Impact Statement Preparation**

The CE, EA, or Draft EIS builds upon the Assessment of Feasible Alternatives from Step 6 and the additional environmental field studies conducted earlier in Step 7. The CE, EA, and Draft EIS contain similar information presented in varying detail depending on the scope and complexity of the project. Typical information presented includes:

- Public and agency comments and coordination
- Purpose and Need Statement
- Discussion of the alternatives considered
- Details of the affected environment, environmental consequences, and proposed mitigation

The environmental document prepared in Step 7 provides an analysis of the impacts and proposed mitigation for the preferred alternative. Information pertaining to the context and intensity of the impacts, both direct and secondary, is necessary for a determination as to whether the impacts are significant. In addition, the environmental document summarizes the public and agency coordination activities, highlights any issues, and discusses resolutions. Some of the information from this detailed environmental document will be incorporated into the appropriate environmental sections of the Preferred Alternative Verification, also completed in Step 7. For more detail on preparing a CE, EA, EIS contact OES, reference the *Environmental Process Manual*, and/or reference FHWA guidance.

## **207.7 Categorical Exclusion, Environmental Assessment, or Draft Environmental Impact Statement Submission**

The CE, EA, or Draft EIS is submitted for approval at the end of Step 7. The submission and approval requirements for the environmental document depend on the level of documentation. A CE Level 4, EA and Draft EIS are coordinated through OES who requests review and approval by FHWA. Upon FHWA approval, the EA and Draft EIS is made available to the public and agencies for review. Specific federal guidelines are followed for this process.

## 207.8 Preferred Alternative Verification

The Preferred Alternative Verification is a design submission that refines the construction limits on the recommended alternative. Assumptions made during the Assessment of Feasible Alternatives are further investigated. The adjacent text box highlights the requirements for the Preferred Alternative Verification. See ODOT's *Location and Design Manual*, Volume 3, Section 1400 for a detailed listing of design activities and submission requirements.

## 207.9 Concurrence Point #4 (Preferred Alternative)

Near the end of Step 7, the preferred alternative is presented to the stakeholders, public, and resource agencies. The goal of Concurrence Point #4 is to receive comments on the recommendation of the preferred alternative, and the agencies are asked to concur on the recommendation of the preferred alternative, its impacts, and proposed mitigation. During Concurrence Point #4, the environmental document - CE, EA, or Draft EIS - is circulated.

The procedures for circulation, review and approval vary depending on the level of documentation.

If the document is an EA, a Notice of Availability is submitted to the affected federal, state, and local governments, and the state intergovernmental agencies as established under Executive Order 12372. Typically, projects require a public hearing, or an opportunity for a public hearing, for the purposes of receiving comments on the EA. Comments are received for a 30-day period following the availability of the EA. If a public hearing is held, it is held during the comment period and copies of the EA are made available for review prior to and at the public hearing. The notice of the public hearing and availability of the EA is advertised in local newspapers. Following the public hearing, a public hearing summary is prepared.

If the document is a draft EIS, the FHWA requests that the Environmental Protection Agency (EPA) publish a notice in the Federal Register announcing the availability of the Draft EIS and initiating a 45-day comment period. Copies of the Draft EIS must be made available to agencies, organizations, and individuals no later than the date the document is filed with the EPA. The Draft EIS requires a public hearing. The notice of the public hearing and availability of the Draft EIS is advertised in local newspapers. Following the public hearing, a public hearing summary is prepared.

### Preferred Alternative Verification Requirements

- Final horizontal alignments and vertical profiles
- Interchange layout
- Design exception request
- Access point request
- Turn lane lengths
- Final Subsurface Investigation Design and Initiation
- Subsurface drainage requirements
- Cross sections
- Sized and identified culverts
- Identified channel relocations
- Post construction storm water best management practices feasibility study
- Structure type studies
- Waterway permit determination package
- Determination of potential locations stream and wetland mitigation
- Conceptual Maintenance of Traffic
- Lane closure requests
- Signal warrant analysis
- Preliminary pavement marking plans
- Depth of underground utilities
- Noise wall justification
- Retaining wall justification
- Pedestrian overpass justification
- Airway / highway clearance analysis
- Environmental commitments

# 200 Major – Step 7

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## 207.10 Cost Estimates and Milestone Dates

Before starting Step 8, the project manager should update milestone dates and construction, utility reimbursement, and right-of-way acquisition cost estimates in Ellis.

## 207.11 Products

- Recommended preferred alternative
- Refined design plans for preferred alternative
- Refined environmental field study data
- Water Permit Determination
- CE, EA, or draft EIS prepared and submitted for approval
- Public Involvement activities
- Approved Preferred Alternative Verification
- Completion of Concurrence Point #4 (Preferred Alternative)
- Detailed Design Scope of Services
- Update cost estimates and milestone dates

## 208 Step 8 - Prepare Environmental Clearance and Develop Stage 1 Design

### 208.1 Final Environmental Document

The CE, EA, or Draft EIS was submitted for approval at the end of Step 7. Often the CE or EA is approved at the end of Step 7, but if any changes to the CE or EA are necessary those changes are completed at the beginning of Step 8. The finalized CE or EA is then resubmitted for approval. See the *Environmental Process Manual* for specific details and submission requirements.

If a Draft EIS was the environmental document completed in Step 7, then during Step 8 that Draft EIS is revised and circulated as a Final EIS for agency concurrence and stakeholder/public comment. During Step 8, the Draft EIS is revised to address the comments received from the agencies and public during the 45-day comment period at the end of Step 7. In addition to the items already in the Draft EIS, the Final EIS should address the following:

- Substantive comments received on the Draft EIS
- ODOT responses to substantive comments
- Summary of the public involvement process used to obtain comments
- Resolution of any outstanding issues or areas of controversy
- Description of mitigation measures that will be incorporated into the proposed project

After review and acceptance by the District and OES, the Final EIS is submitted to FHWA for review and approval. After FHWA approval, FHWA requests that the EPA publish a notice in the Federal Register announcing availability of the Final EIS. The Final EIS is transmitted to any persons, organizations, or agencies that made substantive comments on the Draft EIS or requested a copy. Copies of the Final EIS should also be made available for public review at local public institutions such as county engineers office, post offices, libraries, and schools.

Approval of the final environmental document at the beginning of Step 8, confirms the selected alternative. The selected alternative may be different than the preferred alternative presented at Concurrence Point 4, because the selected alternative is based on the agency, stakeholder, and public comments addressed in the final environmental document.

In Step 7, the Phase II Environmental Site Assessment (ESA) field activities were completed within the preferred alternative. Now in Step 8, coordination begins with the Ohio Department of Commerce's Bureau of Underground Storage Tank Regulation (BUSTR) and/or the Ohio Environmental Protection Agency (OEPA). For more details, see ODOT's *ESA Guidelines*.

### Objectives

- Finalize environmental document (CE, EA, or EIS)
- Request finding of No Significant Impact (FONSI) or Record of Decision (ROD)
- Develop and submit Stage 1 Detailed Design
- Establish proposed right-of-way limits
- Conduct second Value Engineering Study
- Prepare final waterway permit applications and conceptual mitigation plans
- Involve stakeholders at Concurrence Point #5 (Selected Alternative)
- Update cost estimates

# 200 Major – Step 8

## 208.2 Scope of Services

The scope of services developed in Step 5 usually covers not only the engineering requirements for project development through Preferred Alternative Verification at the end of Step 7 but also the NEPA environmental requirements through the clearance of the environmental document in Step 8.

## 208.3 Finding of No Significant Impact and Record of Decision

To obtain final approval of the proposed action, there must be acceptance from FHWA in either concluding an EA with a Finding of No Significant Impact (FONSI) or completing the ESI with a Record of Decision (ROD).

After approval and circulation of the final environmental document, preparation of the hearing summary, and any responses to public or agency comments, the project team should determine if there are any unresolved issues. If a resolution cannot be obtained, the project record should show what attempts were made and explain why a solution was not achieved. Copies of this documentation should be sent to FHWA to supplement the project record.

Once the project team has documented the remaining resolved and unresolved issues, a request for final action is made to FHWA. This request is made through submission of the following items:

- A copy of the public hearing summary
- A written recommendation of either the FONSI or the ROD is from the project team

In Step 8, a Director's Authorization is issued by ODOT's District Deputy Director to formalize the project's action. This authorization occurs once a preferred alternative is determined. Local jurisdictions are notified by letter of ODOT's authorization of the action or change to the state highway system.

## 208.4 Stage 1 Detailed Design

Stage 1 begins after the selection of a preferred alternative. It is important to note that the preferred alternative announced as part of Concurrence Point 4 may change based on agency, stakeholder, and public comments. Any changes to the preferred alternative are addressed in the final environmental document at the beginning of Step 8.

Prior to beginning Stage 1 design in Step 8, the project manager establishes a project review meeting with, at a minimum, representatives from the design, planning, and environmental staff to discuss outstanding issues. The project manager should consider including other discipline representatives such as District utility, railroad, and construction staff.

Stage 1 Detailed Design refines and builds upon the design completed for the Preferred Alternative Verification in Step 7. The Stage 1 Design provides a level of design and detail necessary to begin Preliminary Right-of-Way

<b>Typical Stage 1 Design Elements</b>
<ul style="list-style-type: none"><li>• Refined typical sections</li><li>• Earthwork design</li><li>• Design exceptions</li><li>• Guardrail length</li><li>• Existing property lines</li><li>• Title and deed research</li><li>• Subsurface utility exploration</li><li>• Utility dispositions</li><li>• Complete subsurface investigation</li><li>• Cross-sections with final flow line elevations</li><li>• Ditch designs</li><li>• Finalize post construction storm water best management practices design</li><li>• Drive and interchange details</li><li>• FAA clearance analysis</li><li>• Pavement design</li><li>• Refined construction, right-of-way acquisition, and utility reimbursement cost</li><li>• Noise wall and retaining wall plans</li><li>• Sewer design (plan/profile)</li><li>• Refined construction limits for right-of-way</li><li>• Culvert design (no headwall details)</li><li>• Structure Preliminary Design</li></ul>

Plans, it allows for an accurate estimation of required right-of-way acquisition, and it allows for a refined estimate of construction costs.

A list of elements to assist in the establishment of a reasonable level of detail for a typical Stage 1 design submittal is presented in the text box on the preceding page. The list is not all-inclusive, and all of the listed design elements are not required for every project. See ODOT's *Location and Design Manual*, Volume 3, Section 1400 for a complete list.

## 208.5 Proposed Right-of-Way Limits

As part of Stage 1 design, the construction limits are refined and right-of-way encroachments are determined. Potential right-of-way acquisitions from railroad and railway companies are also determined. In Step 9, the proposed right-of-way limits are incorporated into the Preliminary Right-of-Way Plans. For more details, see ODOT's *Location and Design Manual*, Volume 3, Section 1400.

## 208.6 Second Value Engineering Study

Upon completion of Stage 1 design, a value engineering study is conducted. Through the use of creative techniques, value engineering looks at alternate ways to accomplish the necessary function and reliability at the lowest overall cost.

## 208.7 Final Waterway Permit Applications and Conceptual Mitigation Plans

Projects requiring a 404 Pre-Construction Notification, Individual 404 permits and / or Water Quality Certification , or Isolated Wetland Permits require the completion of permit applications for submission to the agencies. The draft permit applications, often started in Step 7, are submitted to the OES Waterway Permit Unit for review. In Step 8, conceptual mitigation plans are developed as part of the waterway permit applications. If the draft permit applications are returned to the District for revision, then it is in Step 8 that the final permit applications are submitted to OES for Director's signature and coordination with the agencies.

Individual Waterway Permits can take up to a year to finalize after submission of applications to the agencies. The project manager should build sufficient time into the project schedule to allow for permit authorization. Final Waterway Permits must be obtained prior to any work within the waters of the United States. Refer to the ODOT OES *Waterway Permit Guidelines* for a description of waterway permit issues.

Also in Step 8, if Phase II archaeology coordination with the Ohio Historical Preservation Office (OHPO) determined that the project will have an adverse effect on Natural Register of Historic Places eligible sites or listed sites, then a Draft Data Recovery plan is prepared. This plan must be prepared by an ODOT pre-qualified cultural resources consultant through the direction of the project manager. OES reviews the plan and coordinates it with OHPO. If the project requires mitigation for historic properties, then plans can be made for the Historic American Buildings Survey (HABS) or Historic American Engineering Record (HAER). For a more detailed discussion of cultural resources investigation and mitigation requirements, refer to ODOT's *Cultural Resources Manual*.

## 208.8 Floodplain Coordination

Activities in Step 8 may include initiating coordination with the local community floodplain administrator in charge of administering the requirements set forth in the National Flood Insurance Program (NFIP). A description and mapping of the preferred alternative—including available details on any fill material to be placed in the floodplain—should be provided to the local community floodplain administrator for review

# 200 Major – Step 8

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and comment. This coordination will determine if a Flood Hazard Development Permit will be required prior to construction activities.

## 208.9 Concurrence Point #5 (Selected Alternative)

If there has been a change in the preferred alternative as announced to the stakeholders and agencies in Step 7 (at Concurrence Point #4), then the changes and subsequent selected alternative are presented to the stakeholders and agencies during Concurrence Point #5. If the project involves an EIS, the Final EIS is the environmental document presented in Concurrence Point 5 to solicit public and agency comments on the project.

## 208.10 Cost Estimates

Before proceeding to Step 9, the project manager should update the construction, utility reimbursement, and right-of-way acquisition costs in Ellis.

## 208.11 Products

- Approved Final environmental document (CE, EA, or EIS)
- Approved FONSI / ROD
- Approved State 1 Detailed Design
- Proposed right-of-way limits
- Second Value engineering Study
- Waterway permits and conceptual mitigation plans
- Completion of Concurrence Point #5 (Selected alternative)
- Updated cost estimates

## 209 Step 9 - Develop Stage 2 Detailed Design

### 209.1 Environmental Commitments and Plan Notes

In Step 9, an Environmental Commitments Summary is prepared. The purpose of the Environmental Commitments Summary is to ensure environmental commitments made with stakeholders in Steps 4 through 8 are carried through the design activities in the remaining steps of the PDP. The summary includes information about resources that were specifically avoided during preliminary development and Stage 1 design, and it includes a description of environmentally related actions such as a National Pollutant Discharge Elimination System (NPDES) Section 402 Permit. The summary also can include commitments for additional public meetings, as well as a reference table and associated mapping identifying the location of avoided resources.

Also in Step 9, environmental plan notes are prepared. Environmental plan notes are incorporated into the Stage 2 design. The purpose of these notes is to inform the design team of the environmental restrictions and mitigation commitments that must be incorporated into both Stage 2 and Stage 3 design and ultimately into the construction phase of the project. The notes provide guidance for further design activities, thus they must contain enough detail and relevant information to fulfill the environmental commitments as presented in the Environmental Commitments Summary.

#### Objectives

- Summarize environmental commitments and prepare necessary environmental plan notes
- Prepare Final Mitigation Plans
- Develop and submit preliminary right-of-way plans
- Develop and submit Stage 2 Detailed Design
- Develop scope of services for detailed design development and continue scoping through Step 11
- Conduct second constructability review
- Update cost estimates

### 209.2 Final Mitigation Plans

Final mitigation plans for environmental resources are completed during Step 9. For example, if the Phase II History/Architecture surveys and consultation with OHPO conducted in Step 6 identify eligible National Register of Historic Places (NRHP) properties adversely impacted by the preferred alternative, then Documentation for Consultation and a Memorandum of Agreement are prepared in Step 9 to address mitigation for these properties. Mitigation for history/architecture sites can involve, but is not limited to, completion of Historic American Buildings Survey/Historic American Engineering Record (HABS/HAER) documentation. Actual mitigation for archaeology as well as history/architecture is conducted during Step 10 after acquisition of the parcel(s) containing the eligible site(s). For a more detailed discussion of cultural resources investigation and mitigation requirements, refer to ODOT's *Cultural Resources Manual*.

In addition to mitigation for cultural resources, stream and wetland mitigation is conducted in Step 9. The design of the compensatory mitigation measure for streams and wetlands is determined by the relationship of the size, type, function, and quality of the impacted resources compared to the size, type, function, quality of the mitigation proposal. Additional right-of-way parcels should be evaluated for stream and/or wetland mitigation potential prior to disposition. OES Ecological/Permits Section should be contacted for details on mitigation development.

# 200 Major – Step 9

## 209.3 Preliminary Right-of-Way Plans

During Step 9, preliminary right-of-way plans are prepared in accordance with Section 3100 of the *Real Estate Policies and Procedures Manual*.

In general, preliminary right-of-way plans provide an overall picture of the affected property that will be obtained, either temporarily or permanently, in order to construct the project. The primary purpose of the right-of-way plans is to allow an accurate location and appraisal of properties affected by a project. Acquisition of property can be a long process that in many cases dictates the overall schedule of a project prior to construction. To facilitate this process, the right-of-way staff should develop right-of-way plans concurrently with the roadway design plans.

**Preliminary Right-of-Way Plans**  
Generally include the following items at minimum:

- Title sheet (generally from construction plans)
- Centerline plat
- Property map
- Summary of additional right-of-way
- Detail right-of-way plan sheets

## 209.4 Stage 2 Detailed Design

A primary objective of the PDP is to provide a sufficient level of preliminary design inclusive of multiple disciplines in order to anticipate and mitigate all planning, environmental, design, and construction issues in the early stages of project development (prior to Stage 2 design). However, it is not always possible to anticipate all issues for any given project, and Step 9 activities might uncover additional concerns. The project team should recognize this fact and be prepared to provide additional data as necessary in order to resolve any latent issues. The project manager should consider holding additional meetings to resolve concerns that might occur during Step 9.

By the beginning of Step 9, the Stage 1 plans have been reviewed and approved. Stage 2 design incorporates Stage 1 review comments and further details the Stage 1 design. Stage 2 design typically is where the majority of the “final” design and plan preparation occurs. In general, Stage 2 plans should be developed to the point where plan preparation, design, and detailing are substantially complete. Some exceptions apply, notably the inclusion of final pay quantities for final reinforcing steel tables.

**Typical Stage 2 Design Elements**  
In addition to a refinement of those elements included in the Stage 1 design, consider:

- Removal items shown on plans
- Pavement details/elevation tables
- Underdrain details
- Signal design/layout
- Lighting design/layout
- Signing and pavement marking
- Maintenance of traffic details
- Structure design including substructure and superstructure
- Retaining wall details
- Noise wall details

Although it is not the intent of this document to detail all elements in a Stage 2 design submittal, the text box above highlights elements that would establish a reasonable level of detail for a typical Stage 2 design submittal. Scoping should continue through Step 11 and submission of Final Tracings in Step 12. For a more detailed explanation of the requirements for a Stage 2 design submittal, refer to ODOT’s *Location and Design Manual*, Volume 3, Section 1400.

## 209.5 Second Constructability Review

A second constructability review will be conducted during the Stage 2 design. This review is intended to cover the following areas: right-of-way, environmental, geotechnical, utilities, site plan and profile, drainage, structures, maintenance of traffic, construction completion date, construction project phasing and access, and overall bid-ability and build-ability of the project.

## 209.6 Cost Estimates

Before proceeding to Step 10, the project manager should update the construction, utility reimbursement, and right-of-way acquisition costs in Ellis.

## 209.7 Products

- Environmental commitment summary and necessary environmental plan notes
- Final Mitigation Plans
- Approved preliminary right-of-way plans
- Approved Stage 2 Detailed Design
- Second constructability review
- Updated cost estimates
- Draft data recovery plan

# 200 Major – Step 10

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## 210 Step 10 - Complete Right-of-Way Plan and Begin Acquisition

### 210.1 Final Right-of-Way Plans

Final Right-of-Way Plans incorporate preliminary right-of-way plan comments and any Stage 2 Detailed Design comments that affect the right-of-way. Legal descriptions and calculations also are included in the Final Right-of-Way plans. These Final Right-of-Way Plans can be developed concurrently with the Stage 2 Detailed Design in Step 9; however, any Stage 2 design issues that may affect right-of-way must be resolved prior to submission of the Final Right-of-Way Plans.

Right-of-way plans must be accurate as source documents in all cases. Right-of-way plans are used to perform title searches and confirm ownership of the properties required. ODOT uses the Final Right-of-Way Plans and approved Stage 2 construction plans to estimate compensation for the part taken and damages, if any, to the residence. The Final Right-of-Way Plans also identify service providers needing relocation in conjunction with the project.

In rare instances (hardship cases), advanced right-of-way acquisition and whole-take acquisition can begin prior to Final Right-of-Way Plan approval; however, this is generally not the case.

#### Objectives

- Complete and submit Final Right-of-Way Plans
- Complete and submit Right-of-Way Tracings
- Begin right-of-way acquisition
- Begin environmental mitigation
- Begin utility relocation
- Update utility reimbursement and right-of-way acquisition costs
- Achieve milestone for right-of-way and utility coordination

### 210.2 Final Right-of-Way Tracings

The Final Right-of-Way Tracings incorporate all the Final Right-of-Way Plan review comments. Before submitting the Final Right-of-Way Tracings, an in-depth review of courthouse records is conducted to verify property owners and determine if there are new ownership transactions. In addition a field review is conducted to identify changes to topographic features, structures, or utilities. The Final Right-of-Way Tracings are revised to accurately reflect new information identified in the final field verification. Details for Final Right-of-Way submission are included in the ODOT *Location and Design Manual*, Volume 3, Section 1400.

### 210.3 Right-of-Way Acquisition

Qualified appraisal personnel complete certified appraisals to determine property values in the area. These appraisal reports are the basis for developing Fair Market Value Estimates (FMVE) and making offers to the affected property owners. Agreement on acquisition is then sought through presentation of the FMVE and the proposed construction plans.

Acquisition can be done either by easement or by purchase. The right-of-way acquisition process requires ODOT to take certain steps to ensure the protection of all rights and interests of property owners and utility service providers during the acquisition. These steps include:

- ODOT estimates fair market value of the property acquired plus damages to any remaining property. Certified appraisers review and complete the FMVE and certified appraisal report.
- ODOT must make every effort to acquire the property in a timely manner.
- ODOT must make every reasonable effort to contact each property owner and present the owner with a written offer of the approved valuation for the required property.

# 200 Major – Step 10

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- ODOT must offer the full fair market value for the property being acquired in compliance with both federal and state laws.
- ODOT must inform any occupants of buildings being acquired of their rights and benefits under the Relocation Assistance Program. Refer to the *When ODOT Needs Your Property* pamphlet for more details.
- ODOT must inform all owners of their rights under the law; the law will fully protect these rights. State and federal laws prohibit discrimination on the grounds of race, color, religion, sex, national origin, age, or disability.

The project manager ensures that a complete record of all negotiation activities is kept for each property owner. These property owner files include:

- Applicable right-of-way plan sheets
- Title reports
- Certified FMVE appraisal reports
- Negotiation notes
- Signed offer letters and signed contracts
- Relocation Assistance Program documentation
- Fully executed and recorded conveyance instruments

If ODOT and the property owner cannot reach an agreement through negotiation, the Ohio Revised Code (ORC) permits ODOT the right to acquire property for a public improvement through eminent domain. The Assistant Attorney General's Office, Transportation Section, handles all appropriations for ODOT. More details on this process can be found in ODOT's *Real Estate Policies and Procedures Manual* and Chapter 163 of the ORC.

After acquisition and prior to turning the structures over to the districts for disposition, the ODOT regional real estate office will have all structures tested for asbestos, and where applicable, abated. Where time permits, the regional real estate office also can rent the structures until needed for construction, or the regional real estate office can work with the District Office to attempt selling the structures by public bid.

Once right-of-way acquisition has been substantially completed the project manager shall complete the Consultant Evaluation System (CES) right-of-way feedback information.

## 210.4 Right-of-Way/Utility Coordination Milestone

This milestone represents the completion of Right-of-Way Tracings and the start of right-of-way acquisition. It also represents the point at which utility companies should begin to prepare final plans to relocate their facilities.

## 210.5 Environmental Mitigation and Utility Relocation

After acquisition of all property, ODOT makes arrangements for the clearance of the property. Clearance activities include environmental mitigation, demolition of all structures, and relocation of all utilities. If buildings or other structures need to be acquired for the project, it is desirable to demolish these structures as soon as possible. This helps to minimize vandalism and trespassing. In order to gain these advantages, it might be advisable to enter into a contract prior to gaining possession of the structures. This allows prompt removal of the structures on an individual basis as ODOT acquires possession.

If the buildings or structures are subject to mitigation due to their eligibility for the National Register of Historic Places, the approved mitigation plan must be carried out prior to the demolition.

# 200 Major – Step 10

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ODOT must conduct other forms of mitigation associated with the project—such as data recovery from archaeological sites, archival recordation of historic buildings, stream mitigation, and the creation of replacement wetlands—prior to construction activities impacting the associated resource. Coordination with construction activities is imperative to allow sufficient time for the mitigation activities and ensure they will not hinder the construction schedule.

Close coordination among the property acquisition, utility relocation, and design teams is necessary at all stages of right-of-way acquisition in Step 9. This coordination should include a review of impacts to local property owners and utility providers in the early stages of this process. This right-of-way acquisition and utility relocation coordination is an important milestone in Step 10, a milestone that often dictates the project completion schedule. Therefore, the project manager should hold regularly scheduled meetings to coordinate the right-of-way acquisition and utility relocation efforts. Furthermore, coordination with the appropriate county administrator is necessary in the preparation of legal descriptions, Final Right-of-Way Plans, and individual title reports. In cases where ODOT cannot reach agreement with property owners, close coordination with the Attorney General's Office as early as possible is also necessary.

As ODOT acquires each structure, it can release the property immediately to the successful bidder who was contracted for removal. Property owners with buildings being acquired have the option to keep these buildings should they so desire. ODOT and the property owners discuss and agree upon all details at the time of settlement. It is the responsibility of the property owner to remove any buildings he or she desires to keep, at his or her expense and in accordance with state specifications.

## 210.6 Cost Estimates

Based on the right-of-way activities, the project manager should update the right-of-way acquisition and utility reimbursement cost estimates in Ellis prior to starting Step 11.

## 210.7 Products

- Approved final right-of-way plans
- Approved Final Right-of-Way Tracings
- Right-of-way acquisition underway (acquisition must be complete before submission of the plan package in Step 12.
- Environmental mitigation underway
- Utility relocation underway (disposition of utility conflicts must be resolved prior to submission of the plan package in Step 12.
- Updated utility reimbursement and right-of-way acquisition costs
- Completion of milestone for right-of-way / utility coordination

## 211 Step 11 - Develop Stage 3 Design

### 211.1 Stage 3 Detailed Design

Stage 3 Design should represent a complete plan although changes still might be made due to revisions to existing conditions, right-of-way negotiations, and so forth. The principal work items in Stage 3 include the addition of quantities to the plans and a final cost estimate. In addition to a refinement of those elements in the Stage 2 design and a resolution of the Stage 2 comments, consider the items in the text box on this page. ODOT's *Location and Design Manual*, Volume 3, Section 1400 provides further details.

#### Objectives

- Develop and submit Stage 3 Detailed Design
- Prepare Environmental Consultation form
- Update construction cost estimate

### 211.2 Environmental Consultation Form

During the final design of Step 11, the environmental plan notes from Step 9 are updated (if necessary). The purpose of these notes is to inform the contractor of the environmental restrictions and mitigation commitments that must be followed during the construction phase. The notes provide strict guidance to the contractors in preparing their bids and thus must contain enough detail to include the relevant information necessary for fulfilling the environmental commitments.

The project-specific waterway permits are listed as Special Provisions on the construction plan title sheet. The permits are affixed to the plans as a Special Provisions package; this alerts the bidding contractors and ODOT construction personnel to the existence of the permits and all permit provisions and conditions.

#### Design Elements to Be Considered for the Stage 3 Detailed Design Plans

- Project site plan
- All final quantities
- Construction estimate
- General notes
- Pavement calculations
- FAA clearance notification
- Wiring diagrams
- Pole orientation and signal timing charts
- Reinforcing layout and computation
- Special provision package including waterway permits and conditions

At Stage 3 plan submittal, the determination that the plans conform to the Environmental Commitments Summary and mitigation plans is formalized on the Environmental Consultation Form. This form is signed by the District Environmental Coordinator in Step 11 and submitted with the Final Plan Package to ODOT's Office of Contracts during Step 12.

### 211.3 Cost Estimate

Based on the Stage 3 Design activities in Step 11, the project manager should update the construction cost estimate in Ellis.

### 211.4 Products

- Approved Stage 3 Detailed Design
- Environmental Consultation Form
- Updated construction cost estimate

# 200 Major – Step 12

## 212 Step 12- Prepare Final Plan Package

### 212.1 Final Tracings

Final tracing approval is required in Step 12 before proceeding with contract award in Step 13. Final tracings include final tracings of the construction plans and tracings of the Final Right-of-Way Plans. These tracings are submitted for approval with necessary supplemental information as highlighted in the text box below. For specific submission requirements see ODOT’s *Location and Design Manual*, Volume 3, Section 1500.

<p style="text-align: center;"><b>Objectives</b></p> <ul style="list-style-type: none"><li>• Prepare and submit Final Tracings</li><li>• Prepare and submit Final Plan package</li><li>• Update construction cost estimate</li><li>• Achieve milestone for Final Tracing Approval</li></ul>
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The submission of the final tracings includes the Innovative Contracting Notification Form (ICNF) Part 1. Innovative Contracting uses incentives to motivate contractors to provide quality transportation facilities

<p style="text-align: center;"><b>Final Tracing Submission</b></p> <ul style="list-style-type: none"><li>• Tracings of final construction plan including soil profile/foundation sheets</li><li>• Tracings of Final Right-of-Way Plan</li><li>• Completed LD-4 Estimating Form</li><li>• Copy of LD-33, County Engineer Approval Form</li><li>• Innovative Contracting Form</li><li>• Marked review plans and the disposition of all review comments</li><li>• Cost estimates</li><li>• Other documents such as photos, survey data, reports, maps drawings, plans, etc.</li><li>• Special Provisions Package containing Waterway Permits and Conditions, if required</li></ul>
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while minimizing travel delays and maintaining a competitive bidding process. ODOT’s *Innovative Contracting Manual* lists the various types of contracting methods. The manual also lists the types of projects, such as major reconstruction and widening, that should use innovative contracting methods.

Within 30 days of consultant submission of the Final Tracings to the District the Consultant Evaluation System Evaluation Form is completed. The project manager will determine whether a meeting with the consultant is necessary.

### 212.2 Final Plan Package

The Final Plan Package typically includes the same items listed in the adjacent text box for the final tracing submission and presents the design information for bidding and construction. The District Production Office generally processes the Final Plan Package. For a more detailed discussion of submittal requirements, refer to the ODOT

*Location and Design Manual*, Volume 3, Section 1500.

### 212.3 Milestone for Final Tracing Approval

Prior to proceeding with Step 13, Contract Award, final tracing approval is required. At this milestone, the project moves from design to contract administration, the final plans and calculations are complete, all reviews have been completed and comments addressed.

## 212.4 Cost Estimate

Before proceeding to Step 13, the project manager should update the construction cost estimate in Ellis.

## 212.5 Products

- Approved Final Tracings
- Submitted Final Plan Package
- Updated construction cost estimates
- Completion of milestone for Final Tracing Approval

# 200 Major – Step 13

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## 213 Step 13 - Award Contract

### 213.1 Plans, Specifications, and Estimates Package

At the end of Step 12, the Final Plan Package was submitted to or processed by ODOT's District Production Office. Now, at the beginning of Step 13, the District Production Office ensures the Final Plan Package is complete and submits it to the Office of Estimating. For a complete list of submission requirements see ODOT's *Location and Design Manual*, Volume 3, Section 1500.

The Office of Estimating prepares an Engineer's cost estimate based on the Final Plan Package submission. The Engineer's Estimate is the official estimate upon which any required legislation is to be based.

#### Objectives

- Prepare Plans, Specifications, and Estimate (PS&E) package
- Complete final legislation
- Obtain Federal authorization
- Advertise project
- Respond to pre-bid questions
- Conduct construction contract sale
- Award contract

### 213.2 Final Legislation

For projects occurring in jurisdictions of local public agencies, whether or not the agency is participating financially, preliminary consent was obtained from the affected LPAs early in the PDP. This consent included broad language to the effect that the local agency granted permission for ODOT to perform work on the specific project within its jurisdictional boundaries. For projects where local financial participation occurs, the preliminary legislation established participation levels and the details for the transfer of local funds toward the financing of the project.

Now in Step 13 in cases of local funding participation, final legislation is required in which local agencies give final agreement to specific funding levels and amounts and methods of funding transfers. The Office of Estimating prepares the final legislative package in Step 13, which is then sent to the District to coordinate with the LPA in order to obtain the required consent. Once the appropriate consent is obtained as well as the required monies, the District then submits the final legislative package back to the Office of Estimating for final processing. The Office of Estimating completes the final legislation package and includes it in the Plan, Specifications, and Estimates Package.

### 213.3 Federal Authorization

For federally funded projects, the Office of Estimating requests review and authorization of the Plan, Specifications, and Estimates Package from the FHWA to advertise the contract for bids.

### 213.4 Advertisement

Once the final legislation is approved, the Office of Contracts assembles the final bid documents. Bid documents include notice to bidders, project appropriate proposal notes, quantity estimates, final plans and other documentation necessary for legal submission of project bids. The Office of Contracts then schedules a bid letting, a timeframe for distribution of addenda, and a bid date. All dates are set either by ODOT policy or by law. The project manager should submit all contract addenda to ODOT's Office of Estimating prior to the bid date to ensure proper distribution to all potential bidders. More specifics of the process are in the ODOT *Construction Administration Manual*.

## 213.5 Pre-Bid Questions

ODOT ensures one central location for the receipt of all questions about the contract prior to bid. ODOT has a specific telephone number and e-mail address for this purpose. If warranted, pre-bid questions receive a response that is made available to all potential bidders in the form of contract addenda. Coordination is often necessary between estimators, designers, and the right-of-way acquisition team in responding to pre-bid questions from prospective bidders. The official record of pre-bid questions and responses is called the Contract Addenda.

## 213.6 Contract Award

After the bids are opened, the lowest bidder is announced as the apparent low bidder. A detailed review checks the bid for accuracy, responsiveness, and compliance with all conditions. After ODOT certifies a bid as accurate, the lowest bidder receives a contract award letter from ODOT. Notification of the contract award must also be made to utility service providers to coordinate pre-construction schedules and all field activities.

After the project is awarded, the Innovative Contracting Notification Form (ICNF) Part II is included in the contract award notification to the Office of Construction Administration. The ICNF Part II also includes the Part I submitted in Step 12. For more details on the requirements of innovative contracting, see ODOT's *Innovative Contracting Manual*.

## 213.7 Products

- Approved PS&E package
- Final legislation
- Federal authorization
- Legal advertisement for bid date
- Contract addenda (record of official responses to pre-bid questions)
- Construction sale date
- Awarded contract

# 200 Major – Step 14

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## 214 Step 14 - Construct Project

### 214.1 Pre-Construction Conference and Coordination

The contractor awarded the contract in Step 13 has the responsibility in Step 14 to perform the work as detailed in the contract documents. Although it is the contractor's responsibility to perform within the scheduled milestones and for the agreed-upon cost, it is ODOT's responsibility to administer the contract. ODOT monitors, manages, and documents the contractor's activities to ensure compliance with the plans, proposal, and specifications. Conferences, meetings, and general coordination are tools of contract administration.

<p style="text-align: center;"><b>Objectives</b></p> <ul style="list-style-type: none"><li>• Conduct pre-construction conference, partnering, and regular coordination meetings</li><li>• Prepare and submit a Storm Water Pollution Prevention Plan</li><li>• Review and respond to contractor's Value Engineering Change Proposals</li><li>• Accept materials for construction</li><li>• Construct product</li><li>• Obtain final project acceptance</li><li>• Conduct post-construction conference and activities</li></ul>
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At the beginning of Step 14, the project manager should conduct a pre-construction conference before the start of physical construction. The primary goal of the pre-construction conference is to introduce all of the project participants and to discuss actions necessary for a successful start, execution, and completion of the contract work. The pre-construction

conference provides a forum to convey details of mutual interest and concern about the execution of the contract documents. It allows the opportunity to clarify and respond to any questions or potential misunderstandings regarding the upcoming work to be performed. The project manager, with contractor input, coordinates the meeting details including the list of attendees and agenda topics. Following is a list of possible attendees:

- ODOT county manager, Equal Employment Opportunity (EEO) personnel, Prevailing Wage Officer, and testing, production, utilities, and environmental personnel
- Subcontractors and suppliers
- Participating agencies or any agency impacted, including the FHWA
- Utility and railroad companies

In addition, the following text box provides a list of potential discussion topics.

## Pre-Construction Conference Topics of Discussion

### ODOT

- Project description
- Announcement of the project manager and explanation of the person's authority
- Material approval, inspection, and payment processes
- Change Order process including who has authority to approve change orders and to grant permission to proceed prior to change order approval
- Contractor evaluation process and C-95 form
- Dispute resolution and claims process
- Proposal, special provisions, and general plan notes; agreement on their meanings
- Prevailing wage requirements and procedures
- Project bulletin board responsibilities and the necessary contractor posters
- Contractor EEO responsibilities
- Environmental permit requirements, waterway permits, and mitigation
- Soil and erosion control responsibilities
- All environmental commitments and associated plan notes
- Right-of-way issues
- Utility relocations
- Railroad coordination, including any agreements between the contractor and the railroad
- Any value engineering change proposals
- Any pending extra work or change orders
- Disadvantaged Business Enterprise goals and tracking procedures
- Partnering agreements and meeting (if applicable)
- Request-for-Information process
- Maintenance of Traffic issues and scheme
- Environmental monitoring during construction

### Contractor

- Proposed start date
- Name of the project superintendent
- Project baseline schedule
- Subcontractors, suppliers, and material sources
- Work procedures, type of equipment, and work schedule to perform the project

In addition, the project manager, in conjunction with the contractor's project superintendent, should conduct coordination meetings with the contractor on a weekly or bi-weekly basis depending on the project's size and complexity.

Coordination in Step 14 should also include public involvement. The public should be made aware of construction schedules and included in decisions that will affect the local community's daily activities. For example, the local community would need to be involved with scheduling road closures or detours around high-traffic areas and times or special events. For specific information on how to involve the public, refer to ODOT's *Public Involvement Guide*.

## 214.2 Project Site Plan

A Project Site Plan normally is prepared as part of the contract documents. In Step 14, the construction contractor is responsible for modifying the plan to prepare a Storm Water Pollution Prevention Plan (SWPPP) that meets Ohio EPA and National Pollutant Discharge Elimination System (NPDES) requirements (see the ODOT's *Location and Design Manual*, Volume 2).

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## Coordination Meeting Agenda Topics

- Verify prior meeting minutes and announce future meeting schedule.
- Attendee list.
- Review completed, ongoing, and soon-to-start activities.
- Identify conflicts and potentials for delays.
- Review status of environmental commitments and compliance, permit requirements, Value Engineering Change Proposals, outstanding Requests for Information, contractor proposals, submittals, and shop drawings.
- Discuss Maintenance of Traffic issues, safety concerns, and public relations.
- Review claims/disputes status, change order status, and estimates status.
- Discuss testing/material issues, EEO/prevaling wages issues.
- Hold open discussion.

Project Site Plans are required for all projects that include any Project Earth Disturbance Area as detailed in ODOT's *Location and Design Manual*, Volume 2, Section 1112. The specific requirements of a Project Site Plan are listed in ODOT's *Location and Design Manual*, Volume 3, Section 1300.

## 214.3 Value Engineering Change Proposals

During the construction phase the contractor may submit Value Engineering Change Proposals. These proposals are a contractor's suggestion on ways to reduce project costs or offer a time saving in construction without altering the essential functions and characteristics of the project. Value Engineering Change Proposals are detailed in ODOT Policy Number 27-008(P).

### Construction Phase Includes:

- Material acceptance
- Construction Management System
- Assessment of liquidation damages
- Postponement of contract completion date
- Critical Path Method scheduling
- Disputes and claims
- Change orders
- Project estimates
- Value Engineering Change Proposal
- Inspection

## 214.4 Acceptance of Materials

Materials incorporated into the construction project must meet all requirements of the applicable material specification. Materials should be field sampled to ensure they meet applicable standards. Where field sampling is not feasible, the method for accepting materials must be determined by the Administrator of the Office of Materials Management. There are options available when materials do not reasonably conform to appropriate specifications for incorporation into the construction project. These options are outlined in ODOT Policy Number 510-009(SP). More information on controlling accepted material is available in ODOT's *Construction and Material Specifications*.

## 214.5 Construction

Construction can be defined as the execution and administration of the contract documents. At the construction stage, the contractor begins to perform the tasks detailed in the contract. The contractor is responsible for constructing the work as detailed in the contract documents while the ODOT team, led by the project manager, is responsible for ensuring that the terms of this construction contract, including changes, are fulfilled. To verify that those conditions are met, certain documentation is essential. The adjacent text box highlights some of the activities, incidents, or requirements of the construction phase that become part of the project documentation, this is not an exclusive list (see ODOT's *Procedures for Construction Project Documentation* for more detail).

## 214.6 Final Acceptance

The project manager should notify the engineer when all of the engineer's punch list items are complete. Then, the District final inspector will inspect the project for approval. If there are any outstanding minor work items, then the inspector provides these items on a punch list to the contractor. The contractor must complete the punch list and all necessary documentation before receiving the inspector's final approval. The inspector's approval and all necessary documentation from the contractor are necessary for final acceptance and payment. Part of final acceptance also includes completion of the C95 Evaluation Contractor Feedback Form.

## 214.7 Post-Construction Conference and Activities

The post-construction stage involves documentation, coordination, and meetings to finalize the project. One document that needs to be finalized and submitted after construction is the Innovated Contracting Notification Form (ICNF) Part III. The ICNF Part III is submitted to the Office of Construction Administration Innovating Contracting Coordinator. For more details on the ICNF, see ODOT's *Innovative Contracting Manual*.

At the post-construction stage, the project personnel and the contractor review the aspects of the project to determine the project's challenges and successes. This is done at a post-construction conference. Possible participants include: the ODOT design engineer, construction engineer, project engineer, project personnel, design utility coordinator, district environmental coordinator, area engineer, and OES staff. The contractor personnel and management consultant are also likely participants.

Topics for the post-construction conference can include reviewing the value engineering changes, project change orders, project dispute-claims and negotiations settlements, and critical path schedule. The meeting participants also might discuss adherence to environmental commitments and permits, the accuracy and completeness of contract documents, and the partnering relationships with the contractors, field staff, management, and engineers.

Products of the post-construction conference include the Record of Learning. More details can be found in ODOT's *Construction and Material Specifications*.

Documentation throughout Step 14 creates a history of the project and is a source of information for future construction, resolution of potential claims, and assurance of properly managed public funds. The adjacent text box provides a list of activities for which it is important to document and monitor:

### Construction Activities To Document and Monitor

- All contractor and department correspondence
- The environmental commitments and permit requirements
- The contractor's use of public roads, workers, and public safety
- Change orders and force account work authorizations
- Prevailing wage compliance records
- Approved shop drawings and logs
- Transmittal and correspondence logs
- Contractor schedules
- Invoices

For more details see ODOT's *Construction and Material Specifications*.

The activities in the post-construction stage of Step 14 may include post-construction monitoring required by environmental commitments. Stream and wetland mitigation sites have a five-year monitoring period for which annual reports are submitted to the U.S. Army Corps of Engineers (USACE) and the Ohio Environmental Protection Agency. During Step 14, the Environmental Commitments Summary should be reviewed to determine if other mitigation efforts require further action or coordination post-construction.

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## 214.8 Products

- Pre-construction conference, partnering, and regular coordination meetings
- Approved Storm Water Pollution Prevention Plan
- Response to contractor's Value Engineering Change Proposals
- Materials acceptance
- Completed construction
- Final project acceptance documentation, including completed C95 Evaluation Contractor Feedback form
- Documentation of post-construction conference (i.e., Record of Learning)