

NOBILITY EM: A VALUABLE TOOL FOR AUTOMATED NEPA SCOPING, SCREENING, AND ANALYSIS

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Problem Statement

Applying a consistent and defensible approach to the evaluation of projects is a key challenge to today's resource/land manager. Many projects require a high degree of planning and analysis to ensure that the impacts on natural resources are minimized, and that all relevant issues affecting the project are brought forward for consideration. Achieving these goals are often hindered by the cumbersome planning and evaluation process itself, and the accessibility of relevant policy, knowledge, procedures and regulations.

Project Objective

Nobility EM, a GIS decision support system, was implemented within a federal government agency in 2000/01, and is now being used operationally to flag direct and indirect impacts and relevant land use policy and regulations as part of a NEPA screening process. The goal of this project was to introduce a structured methodology for the evaluation of projects, and give decision makers easy access to all relevant knowledge, policy, procedures and regulations so that key issues are identified early on in the project screening process.

Methodology

In this, and many cases, Nobility employed a phased-approach to the delivery of the *Nobility EM* decision support system. A proof-of-concept or pilot system was initially delivered, and once proven and accepted, it was expanded to incorporate additional business issues.

Nobility applied the following methodology for the successful implementation of the *Nobility EM* system:

- spent time with system users and managers to identify their specific needs
- developed a project plan that incorporated system scope and specifications, project team members and a time line
- identified sources and types of data, policy, knowledge, procedures and regulations to be incorporated into the system
- conducted knowledge engineering (with input/assistance from the customer's team members) to encode the necessary data, policy, knowledge, procedures and regulations into what is referred to as an impact rule set, or knowledge base
- implemented the system at the operational level for evaluation/ test purposes
- solicited comments and feedback from users and managers, and made revisions to the system
- once initially accepted, Nobility expanded the system to incorporate additional business issues

Summary of Findings

After *Nobility EM* was configured and delivered, it was quickly embraced as a system that effectively:

- Identifies impacts on natural and cultural resources by the proposed action by querying GIS data layers and the impact rule set
- Flags relevant land use policy and regulations that apply to proposed activities and resources that are impacted by the proposed project
- Screens projects normally addressed in an Environmental Impact Statement (EIS), Environmental Assessment (EA) or Categorical Exclusion (CX)
- Completes a description of impacts for each issue or resource identified as potentially affected by the proposed project
- Generates draft Environmental Assessments (EA) in HTML format, (including an ArcView map) for review or distribution

Implications for Transportation Development

The *Nobility EM* decision support system has wide applicability to many federal and state transportation agencies. The system brings structure, consistency and defensibility into a process that is often complex and cumbersome. The proactive identification of impacts and the flagging of critical land use issues help maintain a better connection between land use, resource management and surface transportation development.

In addition to identifying impacts on natural resources, *Nobility EM* can flag a variety of issues resulting from transportation development, some of which include:

- Community Fragmentation
- Agricultural Encroachment
- Wetlands
- Utilities and Roads
- Severe Slopes
- Wildlife Habitats
- Zoning Conflicts
- 100 year flood zones
- Open Space and Park Conservation
- Water Resources
- Sensitive Soils

Nobility EM can be used to leverage existing GIS data, policy, knowledge, procedures and regulations. It has been proven to save agencies both time and money while improving the consistency and defensibility of the NEPA screening process.

Want More Information? Please contact:

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