COLLABORATIVE JUDGMENT

Collaborative judgment is used throughout the NEPA process to methodically develop a consensus expert opinion when quantitative data are inexact or unavailable, where data or models require interpretation, where questions must be answered that do not correspond well to the available modeling tools, and where qualitative assessments are needed. For example, collaborative judgment is very useful in determining whether an existing set of forecasts represents the future build or future no-build condition. Collaborative judgment is also useful for validating findings of other qualitative or quantitative analysis.

Collaborative judgment should rely on a methodical approach that applies to the selection of appropriate experts, provision of data from which the experts may develop their opinion, careful design of interview questions or other forms of inquiry, and meticulous documentation of the input and outcomes of the collaborative judgment exercise.

Method Description

Collaborative judgment relies on an “expert panel”, which is a group of experts consulted for their subject matter knowledge. Methods vary according to the needs and objectives but may include interviews, workshops, surveys, and Delphi panels. Delphi panels follow a more formal structured process of asking a panel for input and iteratively reflecting on the group answers until arriving at a consensus.

The project record should clearly document the process (including the method used for selecting the participants and the data used to inform the experts’ deliberations) and the decisions and opinions of the panel (including, if consensus is not reached, dissenting opinions). The selection of experts and design of the questions used in the process must be objective and defensible, and should be thoroughly documented.

Particularly avoid the use of “leading questions” that suggest a desired conclusion in their wording, which can undermine the use of Collaborative Judgment results. An example of a leading question is asking, “Do the current forecasts represent future conditions with the project in place?” versus, “Do the current forecasts represent future conditions with the project in place, without the project in place, or some other condition?”

Applicable Contexts

Collaborative Judgment applies throughout the NEPA process, especially in the effects analysis, which requires a comparison of hypothetical futures. Broadly speaking, it is most useful when data and models alone cannot answer a question, or to validate the findings of qualitative and quantitative analyses, such as:

- In the scoping phase, to develop consensus on the level of anticipated induced land use effects in order to properly scope effects analysis.
- When preparing to develop forecasts, to determine and document whether a set of existing forecasts represents the build or no-build future condition.
- If the existing models represent a build condition, to develop a different set of

model assumptions for a future no-build forecast.

- While conducting an effects analysis, to develop the assumptions to be used, such as qualitative assessments of indirect land use or potential effects, the relevant resources of concern, and other "other planned actions" that may be reasonably foreseeable.

Prerequisites

1. **An unknown for which you need to develop a consensus,** such as whether the existing forecasts represent a build or no-build condition, or assumptions to use in developing effects analyses.
2. **Appropriate experts to consult.** Experts must have expertise that is relevant to the issue being explored.
3. **Data**. Collaborative Judgment should always be informed by available data, whether qualitative or quantitative.
4. **Findings**. If Collaborative Judgment is to be used to validate findings of data analysis or modeling, the data analysis or modeling should be complete or under way.

Method Implementation

1. Draft initials questions and follow up questions to be addressed by the experts. Avoid leading questions from which the experts might infer your preference for a particular conclusion.
2. Identify the appropriate experts, which will vary based on the questions to be addressed. Local planners may be the most appropriate experts to provide input on local land use changes over time and the ways in which existing or alternative forecasts relate to community plans. Modelers and model experts might provide the best feedback on model calibration and responsiveness.
3. Identify the appropriate method (e.g., interviews, workshops, surveys, webinars, and Dephi panels) for engaging the experts. Identify which method will be most effective for addressing the questions you seek to answer. If follow-up questions are likely and may vary depending on earlier answers, in-person interactions may be most effective.
4. Design the exercise to obtain the information you need.
   a. Finalize the questions to be addressed by the experts. Continue to avoid leading questions.
   b. Identify what data and objective information will be needed to inform the experts' deliberation. Develop a useful means of providing that information, such as maps, props, presentations, or other materials.
   c. Identify appropriate means for documenting the discussion, recommendations, and conclusions reached. Consider using a laptop with GIS software to enable researchers to document recommended land use changes on a map during the exercise.
   d. Delphi Method uses rounds of individual interviews with experts to reach consensus. Consider what information should be presented to the panel and whether presentations are appropriate.
5. Conduct the exercise. If multiple meetings are conducted, use a script to ensure that your method is consistent across instances. Document the process and the information obtained.

6. Assemble the conclusions by reviewing the information and recommendations obtained.
7. Share the documentation with the participants so that they may validate it. For example, meeting summaries may be prepared and sent to experts for review to confirm conclusions.
8. Finalize the documentation.

Documentation

The documentation should allow an outside party to understand the information gathered and duplicate your conclusions. In addition to including the questions asked, include summary text explaining the reasoning behind the development of questions and the selection of experts. Include summaries of the Collaborative Judgment exercises and information reviewed during the exercise, records of concurrence or other validation, explanation of conclusions, and any references or other information that influenced the experts' conclusions.

Project Examples

New Location Toll Road: Developing the Build and No-Build Scenarios

The region's existing land use model and travel demand model included land use projects developed by the regional planning organization. To understand the effects of a new location toll road in a suburban location, the project team needed to know if these land use projections represented the build or no-build condition and how to alter the land use projections to represent the alternate condition.

To develop the distinct build and no-build scenario, the project team met individually with local planning directors and their staff. In advance of the meetings, the team developed materials to inform the meetings: questions, blank maps, and maps of the land use projections that were used in the regional models. The same team members were present for each meeting and followed a script to avoid leading questions and provide consistency across meetings. GIS software was used at the meetings so that the local planning experts could record how they thought the land use would change under build or no-build conditions.

After each meeting, the project team prepared meeting summaries and updated maps showing the changes recommended by the local planners. Technical memos summarized the process used to identify the local planners who participated, the findings reported by the local planners, and the resulting changes in future land use with and without the toll road. The validated meeting summaries and maps were included as an appendix.

New Location Toll Road: Validating the Models

The project was a new location toll highway connecting two metropolitan areas, and the project team needed to confirm that the travel model was appropriately responsive.

The project team asked a group of transportation researchers in the region (TRB) to review the study model. The research group created an expert panel of 7 academics and senior practicing modelers. The panel was tasked with reviewing the model and providing input on the following:

- How well the travel model currently forecasts regional travel
- The proposed process for merging the latest model outputs to produce mobile source emissions

- What future model upgrades might occur and how those updates would influence the results
- Surveys and other data that could be used to upgrade the model

To address these issues, the panel met in person and via a web-enabled teleconference to review the model documentation, including summary inputs, calibration documentation, model inputs, and post processing procedures.

The final documentation reported on the panel's findings and summarized recommendations to ensure that the model was responsive to the conditions that it would be used to evaluate.

Resources

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