

Successes **in** Stewardship

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FHWA Guidance Provides Insight on the Forecasting Process for Project Development and NEPA

Travel and land-use forecasts play an important role in informing the purpose of and need for large-scale transportation and infrastructure projects by providing useful projections for project managers and decision makers. Forecasting encompasses several parts of the National Environmental Policy Act (NEPA) process, including analysis of alternatives, estimation of environmental impacts and emissions, and assessment of future land-development and cumulative effects. While transportation organizations have produced several technical guidance documents on travel and land-use forecasting, there is little guidance on process considerations that explain how to apply forecasting in the context of NEPA. Such considerations are important because the process is often debated among agencies and interest groups. The Federal Highway Administration (FHWA) has addressed this need through the publication [Interim Guidance on the Application of Travel and Land Use Forecasting in NEPA](#) (the guidance) issued in April 2010. This issue of *Successes in Stewardship* describes the background and content of the guidance and provides applications for transportation practitioners.

The guidance encourages NEPA managers, FHWA staff, Metropolitan Planning Organizations (MPOs), and State Departments of Transportation to follow a multistep process when conducting forecasts for NEPA (see sidebar). As forecasting strategies will vary depending upon project type, scale, and location, the steps in the guidance were designed to be flexible and scalable to improve the accuracy and consistency of forecasting across project types.

FHWA based the guidance on the ideas and experience of experts in the field, attorneys, and other stakeholders, with the intention of sharing forecasting shortfalls that consistently arise during the NEPA process. Attorneys helped FHWA to select guidance considerations that demonstrate current judicial perspectives on the NEPA process. Forecasting is not a regulated process and the guidance will not be mandatory. However, FHWA expects that the guidance will result in more engagement and communication among practitioners and will reduce litigation.

The guidance explains seven key considerations of forecasting that can be categorized into three areas: project set-up, alternatives analysis, and project documentation.

Overview of the Guidance Process

Project Set-up

The guidance recommends that project managers assess forecasting methodologies, collaborative efforts, and project scope at the beginning of each project. This initial step will ensure that there is sufficient coordination with other projects and agencies and that current best practices and technologies in forecasting are used. Project managers should carefully select forecasting tools based on geographic scales, and the project team should agree upon the timeframe of analysis. In addition, the guidance emphasizes the benefits of keeping detailed records during this initial phase. Proper project set-up, including initial documentation, can decrease the likelihood of project litigation and the probability that forecasting will need to be repeated.

Alternatives Analysis

The guidance emphasizes the importance of unbiased forecasting when analyzing each alternative. Project managers should be aware of the assumptions in the forecasting model and the uncertainties in a forecast. They should also verify model inputs and data from other sources so that one alternative does not appear to be favored. Both direct and indirect effects of transportation and land-development investments should be considered for each alternative. Improper analysis of alternatives can lead to litigation or to the need to recreate a forecast.

Guidance Considerations

Project set-up:

- Assessment of project conditions and scoping of study's forecasting needs.
- Review of suitability of modeling methods, tools, and underlying data.
- Scoping and collaboration on methodologies.

Alternatives analysis:

- Objective application of forecasting
- Project-management considerations
- Forecasting for noise and air-emissions analyses

Project documentation:

- Documentation and archiving

Project Documentation

The guidance calls upon practitioners to thoroughly and accurately document assumptions, data sources and files, and decisions throughout the forecasting process. Project managers should document forecast methodology so that forecasts are repeatable by project sponsors in the future. They should also save and distribute files to project sponsors so that sponsors can make changes or input data updates. The forecasting process may be misinterpreted if the project team does not document decision rationales or stakeholder involvement.

Case Study: Mountain View Corridor, Utah

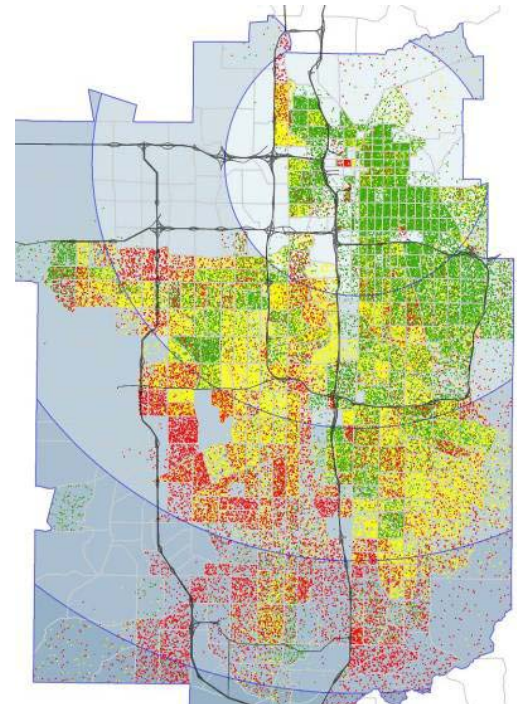
The guidance includes four case studies that demonstrate the use of the forecasting considerations. One of these cases is Mountain View Corridor in Salt Lake County, Utah. The corridor comprises a 35-mile freeway, a 20-mile transit system, and a trail adjacent to the freeway in western Salt Lake and northwestern Utah Counties. The case highlights three steps in the guidance process: scoping and collaborating on methodologies, forecasting in the alternatives analysis, and taking project-management considerations into account. The project emphasizes a reduction in roadway congestion as well as increases in mobility, local growth, and trail use.

During the project, land-use development and travel-demand modeling incorporated early stakeholder involvement at the stage of project scoping and model updates. Regional MPOs collaborated with a nonprofit group, which completed a peer review of corridor projects. The model included an analysis of the sequence of roadway and transit improvements as well as an analysis of the alternatives and documentation of land-development impacts. There were several reevaluations of the analyses and model, and of the consistency of data collection from planning documents, as well as frequent team communication and meetings.

Next Steps

FHWA held three webinars in April and May of 2010 to clarify the main points of the guidance and to provide additional information to practitioners. FHWA plans to hold State-specific workshops throughout the remainder of the year, focusing on contexts, precedents, and forecasting considerations (contact [Michael Culp](#) for workshop details).

The guidance has been in effect as of its release on April 12, 2010. FHWA will accept feedback on the guidance through September 30, 2010, and will issue a final guidance report once the update is complete. Comments or questions should be sent to [Michael Culp](#) (see contact information below). FHWA has also provided a website for [Frequently Asked Questions](#) about the release, content, and next steps for the guidance.



Development in Salt Lake County: Pre-1970 near downtown (green), 1970-1989 (yellow), and post-1990 (red). (Graphic courtesy of Utah Department of Transportation)

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Look What's New!

- FHWA released the third status report on the [National Bicycling and Walking Study](#), demonstrating reductions in pedestrian and bicycling fatalities that exceeded the goals of the original 1994 study. The report, produced by the [Pedestrian and Bicycle Information Center](#), also provides information on Federal, State, and local programs; case studies on best practices; and policy and research recommendations.