“How To” Implement Results

1. Do You Have a Plan?
Agencies need to start planning for implementation at project initiation. It requires careful planning and needs to be considered when defining the deliverable(s) of a research project. An implementation plan should include input from potential users within an agency and technical advisors who can ultimately adopt the results and products. More importantly, a key decision-maker or champion needs to be identified to help eliminate barriers and facilitate the use of research results by the agency. The high-level steps for planning implementation are covered in “Writing a Problem Statement” but agencies should develop a more in-depth implementation plan once the research is underway. The plan should include, at a minimum, the following elements:
- Identify the “Audience” or the “Market” for this research;
- Anticipated “Products” expected from this research;
- List of feasible “Action Items” and associated person/group responsible; and
- Timeline for implementation.

2. Who Will Be Involved?
The nature of applied research is that the end results are intended to assist agencies in employing promising methods, policies, or practices that can be integrated into an agency’s standard processes. Typically, implementation results in changes to standard policies or practices that can be difficult to integrate without the buy-in and support of key decision-makers. Given the inherent differences in how policies or methods may be adopted by various entities within an agency, it is important that the end users of the research are identified up front and involved in the research project. Having one or more end user serve on the technical advisory committee (TAC) from research idea to implementation will ensure that the results will ultimately be useful for practitioners.

3. Are the Proper Resources Allocated?
Effective implementation requires setting aside the resources (e.g., financial, staffing, etc.) needed to implement research into practice. Agencies need to ensure that resources are set aside to ensure successful integration of results. Implementation of research may require additional expertise whether it is an outside consultant or internal expertise to train staff to modify or update practices and policies. Researchers also play a major role in this stage and can serve as a training resource. This should be identified from the beginning to ensure the researcher budgets time and effort for the implementation training.

Implementation can be facilitated by the development of products, such as specifications and training. These products can be developed through the original research project or a separate implementation research project. Additional funding may be available through NCHRP 20-44 which provides funding for implementing NCHRP project research results through an application process.

4. How Do You Evaluate Implementation and Impact?
One difficulty in implementing research, is that research findings are unknown at the onset of a project and implementation of findings may be undefined. In addition, specific barriers unique to each project may arise throughout. To address these potential issues, again, it is important to identify and engage key stakeholders and a TAC early. More-
over, they will be critical in evaluating the progress of the project and implementation potential along with providing focus of the intended impact that the project is aiming to achieve.

5. What Resources Are Available?

**AASHTO Innovation Initiative**—Formerly the AASHTO Technology Implementation Group, the AASHTO Innovation Initiative (A.I.I.) advances innovation from the grassroots up: by agencies, for agencies, and peer-to-peer. The program actively seeks out proven advancements in transportation technology, investing time and money to accelerate their adoption by agencies nationwide.

**NCHRP Synthesis 461**—Accelerating Implementation of Transportation Research Results. This must-have desktop reference contains valuable approaches and strategies for implementing research results and contains a number of useful case studies that can help agencies can directly apply to their situation.

**NCHRP Implementation Support Program**—Created in 2014, and building upon efforts incorporated in dozens of NCHRP projects over the years, the Implementation Support Program provides funding for the adoption of NCHRP research products. NCHRP 20-44 empaneled several experts to help select and monitor the Implementation Support Program.

**Research Program and Project Management (RPPM)**—Implementation Section includes research results related to the topic as well as example plans, guidelines, surveys, and other useful tools.

**Technology Readiness Guidebook**—This FHWA guidebook provides the information to agencies interested in using a Technology Readiness Level (TRL) Assessment to help determine the maturity of technologies. This can help with identifying and determining next steps in the research process.

The complete set of “How To” documents include the following:

- Committee Approach to Research
- Writing a Strategic Plan
- Writing a Problem Statement
- Funding Resources
- Experimental Features
- Sharing Results
- Implementing Results
- Determining the Value of Research
- Monitoring Results