

SHRP Research Products Expected by 1993

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The "strategic" in Strategic Highway Research Program is the source of some mystique. Some think that the program develops high-technology roads for military application. Not so. SHRP is a *strategic* program because it is tightly focused on pragmatic solutions to a few key problems that affect highway agencies, with no attempt to address the full array of research activities that have been conducted and should be continued. SHRP is concentrating on a short list of high-payoff activities in which even modest product improvements will yield savings many times in excess of the research costs. In 1987 Congress authorized five years and \$150 million to solve specific problems that were first identified by TRB's Strategic Transportation Research Study in 1984.

Close to the Consumer

SHRP's orientation toward near-term products is one of its distinguishing characteristics. It is consumer- or user-driven: the research agenda was chosen by top managers of the nation's highway agencies, who pinpointed areas in which they were experiencing visible and inexplicable product failures or deficiencies. Asphalt materials, concrete materials, concrete bridge corrosion, snow and ice control, maintenance cost-effectiveness, and pavement performance emerged at the top of the list. Within these areas, the states fashioned the SHRP program so that it could accelerate technological development and deliver usable products within the five-year time frame.

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The heavy involvement of high-level management from user agencies has continued beyond the planning phase of the SHRP program and is another unique and essential aspect of SHRP. SHRP is administered as a unit of the National Research Council through a mutual agreement among the NRC, the American Association of State Highway and Transportation Officials, and FHWA. SHRP is managed by an executive committee that includes 15 executive-level managers from state highway departments, supplier industries, academic institutions, and the Highway Users Federation. The executive committee approves all of SHRP's program announcements, contract awards, and contract continuation decisions.

Each of SHRP's four technical research areas—*asphalt, concrete and structures, highway operations, and pavement performance*—is guided by an advisory committee comprising experts from state agencies, industry, and scientific institutions. These advisory committees have substantial input into all of SHRP's program management decisions. Because those who will ultimately use SHRP research are shaping its progress, research results are likely to meet real needs and to be put into practice more rapidly than usual.

State Involvement

State highway agencies also are deeply involved in the actual performance of the research. About 1,500 SHRP field sites for experimentation, monitoring, or both will be located on state highways. All 50 states are participating in SHRP's Long-Term Pavement Performance (LTPP) program, which involves monitoring of more than a thousand 500-foot sections of in-service highways. In addition, about 10 states are providing test sites for maintenance operations; others are testing prototype snowplows and pavement ice detectors. Another 10 states are participating in concrete and structures field work this year, and about 30 are involved in pilot testing of new asphalt mixture testing techniques. The states are investing both

personnel and financial resources in SHRP research. For example, for the LTPP sites, the states mark and sign the sites and provide SHRP with information on traffic loads, construction, and maintenance history, as well as traffic control and assistance when monitoring equipment is taken to the sites. Recently, 11 states have sent engineers to work in the SHRP Washington office on short-term (about one-year) assignments, further solidifying the links between SHRP and its constituency.

Fast Results

SHRP has proceeded on a fast track since its funding in April 1987. More than 80 percent of the planned research is currently under way. Field performance monitoring at more than 800 LTPP test sites began this spring, and interim research results are just starting to be reported in all of our program areas. By 1993 SHRP research products should be available for use. These products fall into four general categories: new equipment, new tests, new specifications, and new materials.

For pavement performance research, new performance prediction equations for both new and rehabilitated pavements will be available. Key products for asphalt research will be new performance-based binder specifications and new accelerated tests of asphalt-aggregate mixtures. The concrete and structures program will develop improved concrete materials and better construction processes, as well as better means for diagnosis and control of corrosion in steel-reinforced concrete structures. The highway operations program is developing improved snowplows, better storm communications systems, and more cost-effective maintenance procedures and materials.

SHRP's mission is to produce results quickly and to get them into use. If the program succeeds, it should serve as a model for other, similar programs throughout the transportation sector. Results will not be in for a few years yet, but given the enthusiasm and support that SHRP has received to date, there is every reason to be optimistic.