

Constant improvement, fueled by research and innovation, is critical for state DOTs to provide world-class transportation services to their customer. By any measure, the U.S. highway community invests very modest resources in research and innovation. Nevertheless, we have gained tremendous benefits in terms of lives saved, more durable infrastructure, and improved operations.

The federal role is crucial in enabling a robust Research and Technology Program. Through the State Planning and Research program, research can be undertaken that states individually cannot accomplish because of the size, nature, and long-term horizon of the work.

Previous research projects have led to implementation of many valuable improvements in the transportation community, including:

- More durable longer-lasting asphalt pavement;
- Improved winter maintenance techniques and weather forecasting to reduce the amount of de-icers and salts used while still keeping roads safe
- Non-destructive techniques to test the condition of concrete bridges and pavement; and
- High-performance concrete that will result in longer-lasting bridges and pavement.

AASHTO recommends continuation or implementation of the following programs to ensure that the states develop new and better ways to do business.

Continue the State Planning and Research Program and the FHWA Research Program

The State Planning and Research (SPR) Program sets aside funding for the states to address transportation needs including: engineering and economic surveys; planning and financing of future highway programs; studies on the economy, safety, and convenience of surface transportation systems; and research, development,

transportation

research



and technology transfer activities. The National Cooperative Highway Research Program, which the states jointly fund, is a vital element of the national research program. AASHTO recommends that the SPR program be continued in its current formula-based configuration.

In addition to the research the states do, a core element of FHWA's mission has been to promote innovation and improvement in America's highway system. Under SAFETEA-LU, nearly all funding in this program was earmarked or designated and very little was left to the agency. Thus, FHWA was unable to fund several mission-related activities that the states depend upon. In the next authorization we recommend that FHWA's Research and Technology Programs be funded at \$200 million per year. This should include support for a robust international outreach program.

Fund the Strategic Highway Research Program 2 (SHRP 2)

SHRP 2 is focused on four goals: rapid highway renewal, significant improvement in highway safety, reliable travel times, and environmentally, economically, and socially responsive highway development. The SHRP 2 program is administered by the Transportation Research Board in cooperation with AASHTO and FHWA. AASHTO's recommendation is to fund this program at \$75 million per year to support the program's implementation phase. This program should be funded through a statutory deduction from the core federal-aid highway programs apportioned to the states.

Increase and Expand the Cooperative Research Programs

The authorizing legislation should increase annual support for the Transit Cooperative Research Program (TCRP) to \$18 million, National Cooperative Freight Research Program to \$12 million, and the Hazardous Materials Cooperative Research Program to \$5 million. These programs are important drivers in the development of applied research in their respective fields. The programs have suffered from erosion of purchasing power. As a result, many important research efforts have gone unfunded.

A new Environment and Planning Cooperative Research Program should be established to meet the needs of states and others. This program should be funded at \$15 million annually. This would replace the program created in SAFETEA-LU for FHWA. The environmental research needed by FHWA should be funded from their overall \$200 million research allocation. Similar to other cooperative research programs, this program would be administered by the Transportation Research Board with a governing board, whose membership includes at least 50 percent representatives from state DOTs.

Other Research Recommendations

University Transportation Centers. Continue the University Transportation Centers Program at \$70 million per year and ensure an 80–20 federal/non-federal matching requirement with additional flexibility on the use of any federal-aid and/or non-DOT federal funds for the local match.

Continue Support for FHWA Training and Education programs such as the National Highway Institute (NHI), Local Technical Assistance Program/Tribal Technical Assistance Program (LTAP/TTAP), Garret Morgan and Eisenhower Fellowships, and other capacity building programs. LTAP program funding should be increased to \$20 million annually, and the match reduced from 50 percent to 25percent.

Intelligent Transportation System (ITS) Research and Development. Increase ITS Research funding to \$150 million per year. Continue funding support for on-going initiatives such as the Vehicle Infrastructure Initiative (VII)—a partnership between the U.S. DOT, states, and the auto industry—the 511 Traveler Information System, and other key research efforts advancing safety and mobility. Expand the program to include new ITS technologies which reduce congestion, improve freight delivery, and address global climate change. Also fund a Center of Excellence for Operations within AASHTO.

Expand Funding for Data, and Knowledge-Related Activities. Provide continued funding support for activities such as the National Pavement Performance Database which helps implement results from the *Long-Term Pavement Performance Program* which has been under way for over a decade. Fund the following:

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| National Pavement Performance Database | \$ 10.0 million/yr |
| Research Deployment Program | \$ 5.0 million/yr |
| National Transportation Library | \$ 13.5 million/yr |
| Research Coordination and Collaboration Website | \$ 5.0 million/yr |

