

Benefits of Participating in the North Central Superpave Center

The North Central Superpave Center (NCSC) is one of five centers established in 1995 to assist the agencies and industry in the North Central region of the US and neighboring Canadian provinces as they implemented the Superpave system. The mission of the NCSC has evolved as the region implemented Superpave and now addresses all hot mix asphalt related issues.

Partial support for the operation of the NCSC is currently provided by Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska and Wisconsin through a regional pooled fund study. This funding is referred to as base funding and amounts to about 40-50% of the total budget. The remaining part of the budget is covered by income from national and local research, training and communication activities. At various times in the past base funding was also provided by FHWA and Manitoba.

Participating in the Superpave Center provides the states and provinces with a voice in directing the future of HMA research and any regional improvements in hot mix asphalt technology. Agencies supporting the NCSC receive many benefits for their direct pooled fund participation. Included among these benefits are the following:

- **Regional Voice.** The Steering Committee guides the NCSC activities to address common regional hot mix asphalt issues and concerns. Representation on the Steering Committee helps to ensure that each participating agency's viewpoints and concerns are addressed. The Steering Committee established five major emphasis areas for the NCSC: Equipment/Protocol Evaluations, Ruggedness/Precision and Bias Testing, Research, Technology Transfer and Training.
- **New Equipment/Test Validation.** As the asphalt paving industry continues to evolve and improve, new test methods and equipment are being developed. The NCSC assists the participating agencies in evaluating new equipment and test procedures before they invest in implementation. For example, work is ongoing to evaluate the proposed new performance tests and how typical regional materials perform in those candidate tests. The NCSC is also performing ruggedness testing of the new binder direct tension test and examining the impact of the MP1a specifications. Previous work in this area includes evaluation of new brands and models of gyratory compactors.
- **Testing and Analysis.** Participating agencies have priority access to the NCSC's independent testing and analysis capabilities. The Center's full binder and mixture laboratory is available to participating agencies for forensic analyses, referee testing, troubleshooting, test validation, data analysis and other activities. The NCSC can provide testing using specialized equipment that is not readily available elsewhere because it is too expensive for individual agencies to purchase. Past activities have included compactor comparisons, forensic analyses and failed material testing.
- **Research.** Each participating agency gains access to the NCSC's research capabilities without the customary overhead associated with research. The high overhead rates typically associated with research can be reduced in half or even to zero, depending on the nature of the project. Avoiding this high overhead allows a state or province to stretch their research and testing dollars. The participating agencies direct their own research utilizing the NCSC as the principal investigator or retaining local researchers as the principal investigators with the NCSC collaborating on a portion of the research as a subcontractor. Pooled fund research projects allow agencies to merge resources to address common concerns. Past projects include a regional study of the use of reclaimed asphalt pavement. Current research efforts are addressing friction and noise issues, pavement cracking, performance testing, and construction issues.

- **Technical Communication.** The staff of the NCSC is ready to provide technical assistance on hot mix asphalt issues such as binder properties and testing, mix design and testing procedures, construction and compaction issues, pavement performance and evaluation, among others. The NCSC handles approximately 75-100 requests for information and makes six to ten invited technical presentations each year. The NCSC newsletter is distributed to over 1800 practitioners throughout the region three times per year. The Center's nationally recognized website offers a searchable database of information on hot mix asphalt, videos, technical reports, a calendar, and other related items. The NCSC also fosters communication between the states and provinces in the region on topics of mutual interest and we participate in planning and coordinating the annual meetings of the NCAUPG. Periodic updates to Steering Committee members help keep them up to date on the latest advancements in asphalt technology.
- **Technical Training.** Participating agencies can take advantage of the excellent training offered by the NCSC to support their quality asphalt programs. Each participating agency receives complimentary enrollments in NCSC training courses and support for regional training and technology transfer activities. The NCSC staff is available to provide or assist with in-state training using customized or routine training programs; over 12 in-state courses have been offered since 1997. The NCSC also has collaborated on the development of National Highway Institute (NHI) courses and has served as the instructor for over 25 NHI classes across the country. Over 1500 engineers, technicians and managers have received training through the NCSC since 1996; approximately half of these people represent industry and half represent state, federal and local agencies.
- **Regional Standardization.** The states in the North Central region have expressed their willingness to cooperate to minimize local differences in test procedures, while allowing specification limits to be determined locally. Using common test procedures will benefit the region by aiding contractors who work in multiple states, promoting reciprocity of training and certification, and improving the accuracy of test results. Following priorities established by the Steering Committee, the NCSC is taking the lead in comparing and evaluating test procedure variations among the states to develop common standardized procedures as requested by the North Central Asphalt User Producer Group (NCAUPG).

Hot mix asphalt technology is developing rapidly and the needs of the region are evolving as these advancements proceed. The states have moved beyond the preliminary needs associated with introducing Superpave technology, but are still facing challenges related to field applications and improvements in performance testing. By actively participating in research and training activities associated with implementation of the Superpave technology since its inception, the NCSC is ideally suited to assist agencies and industry with current and future challenges. The North Central Superpave Center offers continuity of service, expertise, state-of-the-art testing equipment and other resources to the participating states. In addition, participating in the NCSC affords agencies and industry a framework for collaborative work on hot mix asphalt issues for the mutual benefit of all with the ultimate goal of longer lasting pavements.