

Bureau of Materials and Research

The Bureau of Materials and Research responsibilities are vested in a headquarters section and four units: Research, Geotechnical, Materials Test, and Regional Inspection. The unit heads report to the Bureau Chief. The Bureau has regional laboratories in Kansas City and Wichita, which are staffed to provide inspection of materials used in construction and maintenance projects. The Bureau has regional geology offices in Lawrence, El Dorado, Chanute and Abilene. These offices support analysis, testing and research used in construction and maintenance projects. The primary functions of the Bureau of Materials and Research are to:

Headquarters Section

- Administer the Quality Control and Assurance Program to promote compliance with specifications;
- Administer Outside Inspection Program:
 - Kansas City and Wichita Regional Inspection Laboratories
 - Provide plant inspection of fabricated structural steel and aluminum, pre-stressed concrete beams and slabs, concrete boxes and pipe, epoxy coated reinforcing steel, and cast metal items, etc. used in construction and maintenance projects.
 - As part of plant prequalification, visit and observe testing being performed by the quality control departments of reinforcing steel mills and wood treating companies.

Research Unit

- Serve as Chair of the Research Technical Committee and assist in the identification and prioritization of projects for various KDOT's research programs;
- Undertake research projects approved by the Research Technical Committee and, Research Program Council, or KDOT's management;
- Administer the Local Technical Assistance Program (LTAP);
- Administer technical information services, National Highway Institute (NHI) technical training and plan and host conferences and workshops;
- Edit and publish technical reports, write and publish research and technology transfer manuscripts, reports, news articles and newsletters;
- Provide for research development and utilization of new highway construction materials and procedures;
- Report research findings in various categories including bituminous materials, concrete materials, pavement surfaces, geology, and chemistry;
- Develop the equipment and procedures necessary to implement research findings;
- Evaluate unusual situations that may occur during standard construction and maintenance field operations and recommend corrective actions;
- Maintain several national research databases and the bureau web site;
- Serve as project monitors on contracted university or private sector research projects;
- Chair the New Products Committee and administer new product evaluations, and;

- Serve as the KDOT's representative to the Transportation Research Board and as a member of the AASHTO Research Advisory Committee, and as members of various other state, regional and national technical panels and committees.

Materials Test Unit

- Test and analyze materials samples from road and bridge projects, as well as evaluate samples of materials to be used on future projects to determine compliance with standard materials specifications;
- Review procedures and inspect equipment used by district or privately owned laboratories and recommend modifications to existing procedures when appropriate; and
- Conduct materials testing, upon request, by other state agencies such as the KBI, other state DOTs, and local units of government.

Geotechnical Unit

Soils and Pavement Section

- Conduct investigations to determine soil characteristics used in preliminary design, construction quality control, and solving soil maintenance problems;
- Assist in determining surfacing scopes and selecting project surface types;
- Provide for surfacing design for all projects;
- Collect performance data needed to support the Pavement Management System; and
- Conduct soil survey and borrow area investigations, foundation settlement analysis for structures, stability analysis for soil/rock slopes, design analysis on light tower and sign footings, pavement design and pavement failure investigations, and pavement performance surveys.

Geology Section

- Supply information and recommendations regarding surface and foundation geology, hydrology, and bridge deck condition to the Bureau of Design for project plan preparation;
- Conduct special surveys on selected subjects such as soil shrinkage, rock expansion, and pile foundation requirements; and
- Construct new water wells in rest areas and rehabilitate and maintain existing wells for all KDOT facilities.

Pavement Management Section

- Administer and coordinate the Pavement Management System (PMS); and
- Produce decision support information for KDOT's Substantial Maintenance Program and maintain supporting Pavement Management Information System (PMIS) data.