Center for Rural Transportation Research and Education

Background
Since 1989, the College of Engineering has actively participated in the Kansas Department of Transportation (KDOT) Kansas Transportation Research and New Developments Program (K-TRAN). The K-TRAN program provides approximately $400,000/year in state funds to support applied transportation research projects involving faculty and students from civil, mechanical, industrial, and electrical engineering, as well as from economics, sociology, and geology. KSU also has been the contractor in many pooled funds programs in which several state agencies combine their resources to fund multi-year research projects of mutual interest. In addition, the College of Engineering and the Department of Civil Engineering have a long history of excellence in creating and delivering technology transfer programs for transportation and workforce development, including specialty conferences, distance education programs, workshops, and training courses. In 2006, KSU was designated a Tier II University Transportation Center (UTC) under the USDOT Research and Innovation Technology Administration’s (RITA) University Transportation Centers Program, with funding of approximately $450,000 per year through FY 2011. During the period 2005-2011, the KSU UTC generated over $2.3M in new research funding, awarded 42 scholarships, and provided financial support for 42 GRA positions. Establishment of the KSU UTC allowed consolidation of KSU’s transportation-related research and technology transfer programs to a single administrative unit. In addition, establishment of the UTC allowed expansion of the college’s transportation research program to include a substantial education component, including scholarships, assistantships, and travel grants to attract and retain highly qualified students. KSU will compete for UTC funding in future grant solicitations from the USDOT Office of the Assistant Secretary for Research and Technology (OST-R). In the meantime, the Center seeks additional/alternate funding to maintain KSU’s current transportation research programs and to elevate the transportation research program to national prominence.

Description
Research, education, and technology transfer activities of the Center will focus on identifying and deploying rural transportation systems and infrastructure innovations aimed at decreasing transportation project delivery, enhancing transportation system safety, promoting economic development, and protecting the environment. The Center has the following unique facilities, services and programs to achieve its mission: Civil Infrastructure Systems Lab, Annual Kansas Transportation Engineering Conference, Traffic Assistance Services for Kansas (highway safety training programs), pavement laboratory technician certification program (Superpave), Kansas Annual Bridge Workshop, Center for Roundabout Research and Education and a mobile Transportation Lab.

Relevance
The theme of the proposed Center for Rural Transportation Research and Education is “Safety and Sustainability of Rural Transportation Systems and Infrastructure.” This theme and corresponding Center expertise encapsulate three areas of concern widely recognized as critical challenges facing the United States: safety, sustainability, and infrastructure. Funding is requested to allow KSU to expand its influence and contributions in order to discover and implement solutions to problems related to the safety and sustainability of U.S. rural transportation systems and infrastructure. In addition, the Center can provide expertise to support other federally supported programs and centers currently in place at KSU. For example, transportation center expertise in transportation network modeling and simulation, emergency evacuation planning, and traffic control could be a valuable asset for advancing KSU’s agricultural bio-security programs. Other research focus areas will include rural economic development, alternative transportation project funding sources, use of agricultural by-products in roadway paving materials, and rural highway dust abatement programs.

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Summary: The proposed Center for Rural Transportation Research and Education will focus on identifying and deploying rural transportation systems and infrastructure innovations in order to shorten transportation project delivery, enhance transportation system safety, promote economic development, and protect the environment.

Opportunity: Funding is requested to allow Kansas State University (KSU) to expand its influence and contributions for solving problems related to the safety and sustainability of United States rural transportation systems and infrastructure. In addition, the Center can provide expertise to support other federally supported programs and centers currently operating at KSU.

Solution: KSU seeks additional funding to maintain its current transportation research programs and to elevate the transportation research program to national prominence.

Impact: During the period of 2005-2011, the KSU Transportation Center generated over $2.3 million in new research funding, awarded 42 scholarships, and provided financial support for 42 Graduate Research Assistant positions.

Equipment and Expertise: Kansas Transportation Research and New Developments (K-TRAN) cooperative research program, Civil Infrastructure Systems Laboratory (CISL), Annual Kansas Transportation Engineering Conference, Annual Bridge Workshop, Traffic Assistance Services for Kansas (TASK), Pavement Laboratory Technician Certification Program (SuperPave).