Intelligent Transportation Systems Standards Development, Kansas Department of Transportation

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OBJECTIVE The Kansas Department of Transportation (KDOT) continues to pursue, develop, design and implement various Intelligent Transportation Systems (ITS) projects. Previous projects developed their own project standards based on previous experience and information from other state Departments of Transportation (DOT’s). While these projects have been developed based on good information, they have been inconsistent due to different designers with unique experiences utilizing a variety of other state standards. This lead to elongated design and review times, confusion for contractors, costly bids and inconsistent products in the field. The need for KDOT to develop their own ITS standards was apparent. The objective of this project was to develop ITS standards for KDOT for all potential ITS projects. METHODOLOGY/APPROACH The overall approach for the project contained several key tasks: 1) Conduct research on previous projects implemented for KDOT. With the intention of understanding which standards were preferred and which standards were no longer applicable. 2) Conduct research on other state DOT’s ITS standards. This included the actual standards, but also understanding how and why the specific standards are being utilized. 3) Conduct research with developers and contractors of ITS technology to understand the current state of the practice. This included product development, material requirements, and construction methods. 4) Review all material and look for consistencies in standards and for those standards that are applicable to KDOT’s specific requirements based on topography, climate, geometric roadway standards and other elements. 5) Hold regularly scheduled meetings with a working group consisting of current ITS practitioners. This group was used as a resource to engage in active discussion, provide feedback and ultimate review of ITS standards recommendations. 6) Based on the work tasks completed, a set of ITS standards was developed using Microstation to be inserted in any ITS plan set being developed. 7) A procedure was also put in place to allow for revisions to the ITS standards as new technology is developed and further “lessons learned” are discovered.

FINDINGS/RESULTS Through all the research and information gathering it was concluded that: 1) The need for ITS standards has become increasing evident when considering previous ITS deployments in Kansas. 2) That some ITS standards are easily transferable from other state DOT’s while some were not due to a variety of reasons. 3) The ITS industry is in constant flux as new technology and ideas are in constant development. The ultimate product was a set of Microstation files that can be inserted into any ITS plan set. There have also been several byproducts of this effort: 1) The development of Best Practices 2) An ITS inspection checklist 3) ITS Test Plan refinements 4) Overall improved documentation All of these elements have been found to be useful and expedited project development, design, procurement, implementation and documentation. POTENTIAL APPLICATIONS The potential applications of this project are obvious as the objective was to be to utilized these KDOT ITS standards on all future ITS projects and implementations. These standards have been successfully utilized on many ITS projects already. In addition other organizations could follow KDOT’s lead to develop their ITS standards and methodologies.