AASHTO-AGC-ARTBA Joint Committee
Joint Position Statement JPS-3-15
Title: Improving Project Management through Use of Technology

State Departments of Transportations (DOTs) and construction industry practitioners have made great strides in the past several years incorporating various technology applications into their routine operations and this development will continue to expand. FHWA's third round of Every Day Counts includes e-Construction as an initiative to promote more rapid adoption of an electronic process for standard contract administration and implementation.

Some of the benefits of greater use of technology on highway and transportation construction projects can include: improved collaboration between contractors, subcontractors, and suppliers with state DOTs leading to better communication, greater consistency, higher quality, faster completion and reduced administrative costs.

Some of the technology being pursued include:

Transfer of electronic plans and electronic contract specifications and special provisions.
Mobile devices, software and applications for field inspection and data collection.
Data hosting services (data clouds, share sites, virtual review rooms).
Electronic review and approval processes (digital signatures/reviews).
Communications tools (e-mail, text, social media, and smart phones).
Radio frequency identification (RFID) tags for resource tracking.
Asset management, electronic as-built drawings and quality assurance records.

The challenge for making these technology developments more widely and conveniently used is in adopting practices that allow this to happen. Compatibility of different software packages is one of the challenges that must be addressed as is the development of best practices. The joint committee identified some areas where cooperation between AASHTO, FHWA and the construction industry could lead to faster and more seamless adoption of e-construction and recommends the following:

1. States are encouraged to convene a forum to look at ways to expand and enhance the use of the state DOTs' electronic administrative platform for use by contractors in developing bids, submitting reports, managing administrative requirements, submitting invoices and other functions.

2. Some compatibility issues related to the AASHTOWare Site Manager software have been identified. As AASHTO moves to adopt a web based version of Site Manager to allow for better collaboration, industry input would help ensure that contractor concerns are addressed. Where state DOT's use software other than AASHTOWare, such compatibility issues should be addressed in the convened forums.

3. Sharing of electronic 3-D models continues to be a challenge in some states. While third-party vendors have made considerable progress in compatibility in this area, a renewed initiative to identify the reasons for the reluctance to share this data and recommendations for addressing these concerns should be undertaken within the forums; and referred to the Joint Committee as appropriate.

4. Field use of mobile devices can provide significant benefits in getting decisions made on specifications and other project related questions. A list of best practices for the use of mobile devices in the field should be developed by the states and compiled and shared by region to speed adoption of their use.

5. Protocols for use of electronic signatures across the whole project development and e-construction process should be developed like that supported in AASHTOWare Project Construction & Materials™.